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Ralph William Grey.
BACKWORTH.

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OF THE

Reconcileableneſs OF SPECIFICK MEDICINES TO THE *Corpuſcular Philoſophy.*

To which is Annexed

A Diſcourſe about the Advantages Of the Uſe of

SIMPLE MEDICINES

By the Honourable *ROBERT BOYLE* Fellow of the Royal Society.

LONDON,

Printed for *Sam. Smith* at the *Princes Arms* in St. *Paul's* Church-Yard. 1685.

28821

August 24. *Imprimatur Hen. Maurice,*
Rmc. Dno. W. Cant. Archpo. a sacris.

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THE PREFACE.

THE rise of the following Tract, intimated near the beginning of it, was not such a fictitious thing as the Reader may imagine, But *tho'* I really receiv'd a Visit from a Physician, known to me, but by his Reputation purposely to propose to me his Objections against the Corpuscular Phylosophy, and he had a long conference with me about them; *yet*, because the Historical passages of that interview, cannot be circumstantially related in few words, I suppose the Reader will willingly allow me, to imploy this Preface in giving him Advertisements about the scope and design of the Treatise it ushers in.

I shall therefore advertise him, that he will be much mistaken, if he shall expect, as I perceive several have done already, to find in this Book a Collection of Receits of Speci-

sick Remedies. For a moderate attention to the Title Page will enable him manifestly to discern, that the following Paper in its own nature, and in the direct and immediate design of it, is a Speculative discourse; since it tends but to show, that, in case there be Specifick Medicines (as 'tis probable there are some) their experienced vertues are reconcileable to the principles of the Corpuscular, or (as many call it) the new Philosophy; and at least do not subvert them, if these Effects and Operations be not clearly explicable by them. And as this is the avowed scope of the following Essay, so I chose to treat of it less like a Physician than a Naturalist. For Physicks being a Science, whose large extent invites and warrants its Cultivaters, to search into the nature and *Phænomina* of things corporeal indefinitely; it must often happen, that the Medicinal Art and this Science will be conversant about the same subject, tho' in differing ways, and with differing scopes.

For

For there are divers hurtful or advantageous accidents and changes of the humane Body, whereof the Naturalist takes notice, but as they are *Phænomina* or changes produc'd by Natural causes in the Body of an Animal, whilst the Physician considers them as Symptoms of Diseases, or Effects of Medicines, the former directing his Speculations to the discovery of truth, and the other his Theory to the recovery of health. But because I elsewhere particularly consider the Cognation and distinction, between the Discipline that the Naturalist, and that which the Physician cultivates, I shall forbear to mention them in this place; but rather acknowledge, that I scarce doubt but that I might have inrich'd the following discourse with some choice particulars, if I would have perus'd and borrow'd from the learned writings of the famous Dr. *Willis*: But besides that I had not his Books at hand, I was unwilling to be prepossess'd or byas'd by his notions, and I presum'd

the Perſon I wrote to would not be unwilling to ſee, what, without their help, the conſideration of the thing I treated of ſuggeſted to me. About this I ſhall now proceed to obſerve, that *tho'*, the direct ſcope of the following diſcourſe, being to explicate the *Phænomena* of ſome bodies, which from their uſe, are call'd Medicinal, and declare how poſſibly they may produce the Effects aſcrib'd to them, the enſuing diſcourſe is for the main of a Speculative nature; *yet* the conſequences that may be drawn from it, and the applications that in this induſtrious Age are like to be made of ſome things that it contains, may probably render it practical. For I have more than once obſerv'd, that divers conſiderable Remedies, and ſome not unpromiſing methods too, have either remain'd unthought of, both by many Galenical Phyſicians, and divers of their modern Antagoniſts too, or if propos'd by others, have been rejected or ſlighted, barely upon this ſuppoſition,

ſition that no rational account can be given of their way of working, or how they ſhould do good, and 'tis ſaid to be unworthy of a rational Phyſician, to make uſe of a Remedy, of whoſe manner of operating he cannot give a reaſon. How prejudicial it may be to many Patients, that Phyſicians be prepoſſeſs'd with a bad opinion of an uſeful Remedy, may be gueſs'd by him that ſhall conſider, what multitudes of Teeming Women, that probably might have been ſav'd by the skilful uſe of Phlebotomy, have been ſuffer'd to dye for want of it, upon a diſlike of that Remedy that Phyſicians for many Ages thought to be grounded upon no leſs authority than a poſitive Aphoriſm of *Hippocrates*. And therefore if, to remove the ſpecious objection newly mention'd againſt that whole kind of Remedies call'd Specificks, the following Tract has been ſo happy as to ſhow, that 'tis at leaſt poſſible, that Medicines ſaid to be *Specifick*, may perform hteir operations by ways, which tho'

not explicable by the vulgar Doctrine of the Schools, are intelligible, and reconcileable to the clear Principles of the Mechanical Philosophy: If, I say, this have been done by the Theory propos'd in this Treatise, it may conduce somewhat to inlarge the minds of many Physicians, and invite them to make use of several Remedies, of which they did not think, or against which they were prejudic'd. And since Specificks, where they can be had, are wont to be free from any immoderate manifest quality, and for the most part to work more benignly, as well as more effectually, *cæteris paribus*, than other Medicines; I think that to bring them into due request, and invite Physicians to search for new ones, as well as imploy those already known, may tend much to shorten many Cures, and make them more easy and more safe.

Est aliquid prodire tenus si non datur Ultra.

THE

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OF THE

PUBLISHER.

THE *Author had occasion to touch upon some of the same Subjects that he here treats of, in a Book*, The Usefulness of Experimental Philosophy, *long since publisht; but he had the misfortune to be reduc'd to write the following Discourse about* Specifick Medicines, *and the Utility of* Simple Remedies, *in a Village where he had not that Book at hand, and could not call to mind all that he had therein publisht seventeen or eighteen years*

years before: On which account, though he studiously forbore to repeat the particulars that he remembred to have set down in that Treatise, how opposite soever they would have been to his present purpose, yet having since the following Discourse was sent to the Press, got a sight of that other (which he had not read in many years) he finds upon a transient View that some of the same things are mentioned in both Books: at which discovery, though he be somewhat troubled yet he is the less so, because they are but few, in comparison of the new ones, and set down on such occasions, or with such other circumstances, that may make a favourable Reader look on them, as not bare repetitions. And tho' in the forecited Treatise, some of the motives to make use of simple Medicines, be lightly touch'd, yet besides, that they are not all that are mention'd in the following invitation, those arguments that are there but pointed at, are here treated of, and both confirm'd, and explain'd by other Observations, and Receits. And since the Printed Book above mention'd has been

for

for divers years very scarce, 'tis presum'd that those many Readers that have it not, will not be displeas'd to find here some few things for which they cannot resort thither: And as the Author foresaw he might be oblig'd to consent to the translation of the following papers into the Roman Tongue, so he thought his Latine Readers would not repine, tho' a great number of particulars had been borrow'd of a Book that is not yet extant in their Language.

I shall give you no farther account of the particulars contain'd in the two ensuing Treatises, since the title pages give a sufficient hint of the Noble Authors main scope, and chief design, I shall only say, that the first Treatise effectually performs what has not been as yet attempted by answering a very considerable objection against the Doctrine of the Corpuscularian Philosophers, namely, that which is taken from what we call Specifick Medicines, *their vertues, and operations being hitherto judg'd by several of the learnedest sort wholly irreconcileable to the principles of the new Philosophy.*

losophy; whereby he gratifieth not only the curiosity of Speculative Philosophers, but does likewise a notable piece of Service to all Physicians, ushering in here and there such notions as may be the Principles of a sure, and easie Practice, yea and enable them too, to give a good account of their own Receits; I mean of those that contain Specifick Medicines, whose vertues hitherto we could not describe to our Patients, but by saying they did work we knew not how, or by some Specifick, that is by some occult or hidden quality. The second Treatise, which is an Invitation to the use of simple Medicines, is of such a general use, that Mankind is much indebted to this Noble Author for it, 'tis so well grounded both upon Reason, and Experience, that this as well as the forementiond discourse, does fully answer the great repute of the Author both at home, and abroad, where he is commonly stil'd the Englisn Philosopher.

THE

The Publisher thought fit to translate for the benefit of every common Reader, some Latine passages contained in the foregoing Treatises.

P. 70. *From the year of our Lord 1649. in the space of fourteen years I cur'd above a thousand Frebricitants without Bleeding, Purging, or Sweating, by the help of a single precipitating Remedy, without any regard to the nature of the Feaver, whether it were intermittent, or continued, whether it were a* Tertian, *or a* Quartan, *which is harder to cure than any other, yea without considering any other circumstance either of Time, Place, Sex, or Age, and that in a very short time, without any danger of Relapse, and without any considerable trouble of the Patient, if through his own Intemperance, he fell not into new Fits again.*

Kergerus
de fermentati
Sect. 3. cap. 3.
p. mihi 250.

P. 130.

P. 130. *I have made my self a frequent trial of this Stone, having carried several of those little Stones tyed together about my Neck in such a manner, that the Stones did touch the Mouth of my Stomach, yet they were beneficial, tho they had nothing graven upon 'em,* &c.

Galen.
de simpl. med. facul.
l. 9. tit. de lap.

P. 131. *We have seen sometimes the Hemerods cured, as likewise the copious monthly issues by wearing Rings made of this Stone.*

Nic. Monard.
simpl. med. histo. c. 36.
p. 329.

OF

OF THE Reconcileableneſs of Specifick Medicines, TO THE *Corpuſcular Philoſophy.*

The Introduction,

To my Learned Friend, Dr. *F.*

SIR.

PErceiving, by our late Conference, that the thing which moſt alienates you, from the Corpuſcular Philoſophy, is an Objection drawn from your own Profeſſion and Experience, namely, that the Specifick Vertues of Medi-

cines are not reconcileable to it; my unwillingneſs that an *Hypotheſis*, I am ſo kind to as I am to the *Mechanical*, ſhould continue under the disfavour of a Perſon I ſo much eſteem, as I do Dr. *F.* makes me venture to offer you the annexed Paper, thô it be but an Inlargement of a diſmembred part of what I long ſince, to gratify a Friend, noted about the *Origine or Production of Occult Qualities.* For thô I pretend not, that this Trifle ſhould ſatisfy a man of your Judgment and Learning, yet it may perhaps ſerve to keep you from thinking it impoſſible, that a skilful Pen may be able quite to ſurmount thoſe Difficulties, that ſo bad a Pen as mine is capable of leſſening.

A

A Paper belonging to the writings about the Mechanical Origine of Qualities.

AMong the ſeveral kinds of occult qualities that, which is afforded by the Specifick Vertues of Medicines, is not here to be pretermitted. For theſe Qualities do not only, like other hidden ones, invite our curioſity, but concern our health and may hereafter (if I miſtake not) appear to be of much greater importance, than as yet they are commonly thought. However it may be worth while to take ſome notice of them in this place, if it were but becauſe divers Learned Phyſicians do, as ſome of themſelves owned to me, reject or diſfavour the Corpuſcular Philoſophy upon this account, That they think it cannot be reconcil'd to the vertues of Specifick Remedies, or at leaſt cannot, either in a particular or in a general way, give any tolerable account of them.

I find three sorts of Qualities mention'd in the Books of Physicians, under the notion of *Specifick Vertues*. For by *some* a Medicine is said to have a Specifick Faculty, because it is eminently and peculiarly friendly to this or that particular Part of the Body, as the Heart, the Brain, the Eye, *&c.* By others it is said, by a Specifick Power, to attract and evacuate some determinate Humour, as Choler, Phlegm, *&c.* But the most usual account, upon which a Medicine is said to be *Specifick*, is that it has the vertue to cure, by some hidden property, this or that particular disease, as a Pleurisy, an *Asthma*, the colick, the Dropsy, *&c.* And this being the principal and most common sense, in which the word *Specifick* is employ'd by Physicians, I shall ordinarily make use of it, in that sense, in the following discourse, but yet without so confining my self to it, as not to consider it in the two other senses, when occasion shall require.

But before I descend to particular consider-

considerations 'twill not be amiss to obviate mistakes by declaring, in what sense in this Paper, I shall employ the Term *Specifick Medicine*, especially in the last of the three forementioned Acceptions.

I do not then by a *Specifick* understand a Medicine, that will cure the disease it is good for Infallibly, and in all Persons that take it, for I confess I never yet met with any such remedy. Nor do I by *Specifick* understand a Medicine that, almost like a *Charm*, works only by some latent and unaccountable Property, without the assistance of any known Quality, as Purgative, Diuretick, Sudorific, *&c.* to be found in other Medicines: But by *Specifick* I mean, in this discourse, such a medicine as very often, if not most commonly, does very considerably, and better than ordinary Medicines, relieve the Patient, whether by quite curing, or much lessening, his disease, and which acts *principally* upon the account of some Property or peculiar vertue; so that

if it have any manifeſt Quality that is friendly, yet the good it does is greater, than can reaſonably be aſcribed to the degree it has of that manifeſt Quality, ashot, cold, bitter, ſudorifick, &c.

There are two grand Queſtions, that may be propos'd about the Specifick vertues aſcrib'd to Medicines, The firſt is, whether there be really any ſuch, and the ſecond whether, if there be, the Mechanical *Hypotheſis* can be accommodated to them.

The former of theſe Queſtions may admit of a double ſenſe, for it may be propos'd with reſpect, either to the preſent meaſure of our knowledge, or to thoſe further attainments that, in future times, men may arrive at.

In the latter of theſe ſenſes, (to diſpatch firſt the conſideration of that) I ſhall not preſume to maintain, without reſtriction, either part of the Queſtion. For I do not only hope, but am apt to think, that in time the

the Industry and Sagacity of men will be able to discover Intelligible causes of most of those Qualities, that now pass for *Occult*, and among them of many of the Specifick vertues ascrib'd to Medicines. And yet, on the other side, I much fear that men will not be successful, in tracing out the true and immediate causes of those good effects of some remedies, that depend upon such fine and uncommon Textures, and such latent and odly guided Motions, as fall not under our Senses, thô perhaps assisted by Instruments. Which conjecture will appear the less improbable, if we consider those admirable *Idiosyncrasiæ*, or Peculiarities of Disposition, whereof the Books of eminent Writers afford us many instances, to whose number I could, upon my own Observation, add several, if I thought it needful. And, thô I am not ignorant that some of these may be plausibly accounted for, as that of some mens aversion to cheese, or to cats; yet I do not think that the like explication

cations can be extended to some others, that might be nam'd, if it were here pertinent to discuss that throughly.

As to the former sense, of the Question lately propounded, I confess my self very inclinable to the Affirmative, as far as I can judge by those writings of Physicians I have had occasion to peruse. Which limitation I add, because I would not derogate from the knowledge of particular persons, who in so learned and inquisitive an Age, may be arriv'd at far greater attainments than those Physicians have done, that have entertain'd the Publick about the Occult and Specifick Qualities of Medicines.

I know there have been, and still are, Dogmatical Physitians, that upon the Principles, as they pretend, of the School-Philosophy, reject all Medicinal vertues that they think not reducible to manifest Qualities. But of such *Galen* somewhere justly complains, that they either deny matters

of

of fact, or assign very incompetent causes of the effects they pretend to explain. And, for my part, I am so far from believing these men capable of giving sufficient reasons of the more hidden Properties of Medicins, that I am not apt to think them able, by their Principles, to give clear and particular explications, even of the more easy and familiar vertues of simples.

I am therefore dispos'd to think that, in the sense formerly deliver'd of the Term *Specifick Medicines*, there are some Remedies that deserve that name.

To this opinion I have been led by several Reasons. And first (to begin with the least weighty) it has the suffrage of many learned Physicians, both Ancient and Modern, and particularly that of *Galen* himself in several places of his Works. And I remember that, treating of a Specifick Remedy against the biting of a mad Dog, which vertue he ascribes to an occult Quality, or, as he speaks, to the

Galen. *de Simpl. Medicam. Fac.* Lib. 11.

the Propriety of the whole Substance; he takes occasion to promise, that he would write a Book of things that operate upon that account. Which Book, if it had scap'd with his other Works (for he elsewhere cites it as having written it) would probably have furnish'd us with several things to strengthen our opinion. And thô in Matters Philosophical I am little sway'd by mere Authority, yet the concurrent suffrage, of many eminent Physicians, may in this controversy be the more considerable, because most of them, being noted Practitioners, had opportunity to observe whether or no any Remedies deserv'd the name of Specificks: And their Testimony is, in our case, the more to be regarded, because Physicians, especially famous ones, are not wont to be willing to acknowledge, that there are Effects, which fall under the Cognisance of their art, whereof they cannot give the causes.

My next Inducement, to admit Specificks,

Specificks, is founded upon Parity of Reason: For 'tis manifest, that there are divere formidable Maladies, that are produc'd by inconsiderable quantities of Poysons, that have not been discover'd to produce such great and dismal Effects by any Manifest Quality, whether first, second, or third, as Medical Authors (I doubt not over accurately) distinguish them.

On this occasion I shall add a very odd Accident, about which I was advis'd with by an expert oculist, very soon after it happen'd: The Case was this. A man lying somewhat long in Bed in the morning, and chancing, as he lay upon his Back, to cast up his Eyes to the Tester, saw a great Spider, that stood still just over his Face: Wherefore having reproach'd his Wife, who happen'd to be in the Room, with gross negligence, she took a Broom, and struck it upon the upper part of the Tester, to beat down the Spider; but the Animal held so fast with his Feet that she miss'd her aim, and he, whether frighted

ted or irritated by this rude ſhake, let fall upon the Man, that was ſtaring at it to ſee what would happen, a drop of Liquor that lighted directly upon one of his open Eyes. But finding no heat nor ſharpneſs inſue, but rather a very ſenſible coldneſs, he made nothing of it, but roſe and put on his cloth's. But preſently after, happening to rub with his finger the other Eye, he was ſadly ſurpriz'd to find himſelf ſuddenly benighted, and calling for aſſiſtance, he found that the Eye, which the Spider had let fall ſomething on, thô no change were noted in it by the byſtanders, was totally depriv'd of ſight. Upon which ſcore he repair'd to the above mention'd Oculiſts: But whether he afterwards recover'd his ſight or no, I cannot tell; all the endeavours the Oculiſt and I imploy'd to find out his Lodging (to which it ſeems he had left a wrong direction) having been fruitleſs. This brought into my mind, that I had ſometimes wonder'd to ſee how much more quickly Spi-

ders will kill Flyes, than the cutting off their Heads, or running them quite through with Pins or Needles will do.

But to return to what I was saying, of the great Mischief done to Humane Bodies, by very small quantities of Poyson; methinks one may thence argue that it seems not improbable that Appropriated Medicines, especially when administred in greater quantity, may produce very notable changes in the Humane Body to the advantage of it. But on this occasion I expect to be told, that 'tis much more easy to do harm, than good, and I confess 'tis so in the general, but yet, in the particular case before us, I consider that some Poysons, that produce such dreadful Symptoms in the Body, are frequently cur'd by their appropriated Antidotes, which therefore must have a Sanative Power great enough, with the help but of the ordinary Concourse of Nature, to surmount the efficacy of the venemous Matter. To which I shall add this more familiar instance

that

that *as* Perfumes do often enough produce various, and ſometimes frightful, Symptoms in many Hiſterical Women; *ſo* the fumes of the burnt Feathers of Patridges, Woodcocks, *&c.* do frequently cure the Fit in as little time as the ſweet ſmell procur'd it. And I have often found the ſmell of ſtrong Spirit of Harts-horn, or of Sal-Armoniac, recover ſuch Women in far leſs time, than the fragrant odours imploy'd to make them ſick.

The third and Principal Inducement I had, to think there are Specifick Remedies, is from Experience. I might urge, on this occaſion, the Teſtimony of *Galen*, who tells us more than once, that he himſelf therefore confided, in the Aſhes of burnt Craw-Fiſhes, for the cure of the biting of a Mad Dog, becauſe never any of thoſe that took it dy'd. And to annex that upon the by, for the uſefulneſs of it, he adds, that thô the effect of theſe aſhes be admirable, even when given

Galen *de ſimpl. Med. Fac. lib.* 11.

given alone, yet their vertue may be increaſed, by adding to ten parts of burnt Craw Fiſhes five of *Gentian* and one of Frank-incenſe. And the great vertue of theſe burnt Shell-fiſhes I find to have been taken notice of ſome ages before *Galen*; *Dioſcorides* much commending them againſt the ſame Diſeaſe that the *Pergamenian* does.

I ſhall in this place purpoſely forbear to mention ſuch Medicines, as, thô by divers learned Phyſicians commended as Specificks, are yet by others much queſtion'd, if not flatly deny'd to be ſo. Since it may be more proper, and may perhaps ſuffice, to mention two or three, whoſe efficacy is more notorious.

'Tis known, by almoſt daily experience, in *Italy* and divers other hot Countreys, that thô the ſtings of Scorpions oftentimes produce very acute Pains, and formidable Symptoms, yet the Miſchief is eaſily remedy'd, either by preſently cruſhing the Body of the Scorpion upon the Hurt,

Hurt, or by anointing the part affected with Oyl of Scorpions, (for that reason to be almost every where found,) which being made by suffocating those Insects in common Oyl, and keeping it long in the Sun, the Liquor does not at all appear to have any manifest Quality, to which its sanative Efficacy may be ascribed.

The Bitings of those Serpents, which for the noise they are wont to make, with a kind of empty Bladders in their Tails, the *English* call Rattlesnakes, are counted much more poysonous and dangerous than the stings of Scorpions. Of which I remember a learned Eye witness, that liv'd divers years in *Virginia*, where they much abound, related to me a very strange Instance, which I cannot now stay to set down. And yet the *English* Planters, when they have the misfortune to be bitten by these Serpents, are wont to cure themselves very happily by the use of that plant, which from its effects, and the place it grows

in,

in, is well known by the name of *Virginian Snakeweed*, [*or Serpentaria Virginiana.*]

That the *Peruvian Bark*, commonly call'd here in *England* the *Jesuits Powder*, is a Specifick againſt Agues, particularly Quartans, divers learned Phyſicians not only grant but aſſert. And I remember the juſtly famous Dt. *Willis* gave me this Character of it in private diſcourſe, (not without taking notice that ſome decry'd it,) *'Tis the nobleſt Medicine we* (meaning the *Phyſicians*) *know.* But thô I will not diſpute, whether it be ſo certain and ſafe a Specifick for Agues, as 'tis believ'd by divers eminent Doctors, yet I think it can ſcarce be deny'd, to be a Specifick Medicine to ſtop the fits of Agues, (in the notion of *Specifick Remedies* formerly deliver'd) ſince it does that far more effectually, than the generality of Phyſicians, for many ages, were wont to do, with their other Antifebrile Medicines.

I might here tell you, that I have

my self seen a stone, whose efficacy in stopping Hemorrhagies invited my Wonder; and another, which perform'd extraordinary things in more than one Distemper thô I could not perceive that either of them did these things by any manifest Quality. And I might here add some other particulars, that may be borrow'd from Experience, in favour of our opinion, but that 'tis like they will be more properly alledg'd hereafter in some places of the remaining Part of our Discourse.

I know those, that have rejected Specifick Medicines, have confidently urg'd three plausible Arguments against them. For *some* Physicians deny there are any Effects of Medicines so considerable, as to make them deserve the name of *Specifick*. *Others* would probably allow that Experience favours our opinion, if they did not think the way of a *Specifick* Medicines operating must be inexplicable, and consequently ought not to be admitted by Physicians. And *others* ag ain

again (being of Sentiments very differing from these) will allow them to be very efficacious, but endeavour to derive their whole Efficacy from Manifest Qualities, as heat, cold, tenuity of Parts, faculty of making large Evacuations by Vomit, Siege, &c.

But these objections will be more opportunely consider'd in due places, Only there is one Argument, that may be objected by the deniers of Specifick remedies, which I confess is so specious, as to deserve to be particularly examin'd in this place, lest it should, if unremov'd, beget too strong a prejudice against a great part of the ensuing Discourse. For it may be said, that a Medicine taken in at the Mouth must, in the Stomach and Guts, be at lest very much chang'd by Digestion, and the Aliments it meets with there, and a good Part of it will be proscrib'd among excrements. That after it has pass'd out of the Stomach, it must meet with divers strainers of differing Textures, which will probably stop all or most of the

Medicinal Corpuſcles that would pervade them. And that if any ſhal be ſo lucky, or ſo penetrating, as to ſurmount all theſe obſtacles, they will probably either be aſſimilated unto the Subſtance of the Body, or quite chang'd by the parts they will be fain to combine with there. Or, if yet any ſhould be able ſo obſtinately to retain their priſtine Nature, they will in all likely hood be too few to have any conſiderable operation upon the Body. But to this plauſible objection I have ſeveral things to oppoſe by way of Anſwer.

1. And firſt I may repreſent, that divers Specifick Medicines, as ſome ſome Oyntments, Plaiſters, Poultis's Amulets, *Pericarpia*, &c. Being outwardly apply'd, their Corpuſcles can get into the Maſs of Blood without paſſing through the Stomach, and conſequently are not concern'd in the propos'd objection.

2. Againſt moſt of the *Galenical* Phyſicians, that are wont to urge the

the formerly propos'd objection, I ſee not why one may not argue *ad hominem* by putting them in mind, that the ſame Difficulties for the main, or others not inferior, may be alledged againſt a common opinion of their own. For ſince they believe that Purgatives, Cordials, Diaphoreticks, beſides Cephalicks, Hepaticks, and ſome other ſorts of Medicines, do contemperate, and ſweeten the Blood, and uſefully affect the newly mentioned ſtable Parts; and ſince theſe Medicines act not by naked Qualities, but by ſmall Particles, of their own ſubſtance, if they can give us an intelligible account of the ingreſs of theſe Particles in conſiderable numbers, into the Receſſes of the Body, without being diſpoyl'd of their particular virtues, they will at the ſame time inſtruct us, how to anſwer the objection they urge againſt us.

3. And in regard the generality of Phyſicians hold, that Milk, and Urine, were materially in the Maſs

of Blood. and are ſeparated from it by the Breaſts, and Kidneys ; I think one may by experience ſhew the invalidity of their ratiocination againſt Specificks. For 'tis obvious to obſerve, and I have ſeveral times done it my ſelf, that Rubarb will (perhaps for many hours) tinge the Urine of thoſe that take any conſiderable doſe of it. And in ſome of our *Engliſh American* Colonies, there grows a fruit, which the planters call the *Prickled Pear*, whoſe inward Subſtance is exceeding red, and whoſe being pleaſant in taſt, as well as colour, frequently invites eaters ; but its Juice is of ſo penetrating a nature, that it paſſes from the ſtomach into the Bladder, and then into the chamber-pot, with ſo little loſs of its redneſs, that ſtrangers are wont to be ſurpris'd and frighted at it, as thinking this unknown fruit had made them void bloody Urine, if not blood rather than Urine. This is a known thing among thoſe, that have dwelt in our Southern Plantations, and has been

been affirm'd to me by unsuspected Eye-witnesses, and among them by a famous Physician. As for Milk, the great *Hippocrates* himself informs us, that if a Woman, or a she-goat take *Elaterium*, the Cathartick vertue passes into the Milk, and will purge the Child that drinks it. And I remember that having occasion to make some stay, in the Spring or beginning of Summer, in the confines of *Switzerland* and *Savoy*, I had the opportunity to observe this odd *Phænomenon*, That when the Cows, in that District, fed, as they would in that season plentifully do, upon a certain weed, said to be a kind of Wild-Garlick, that grew copiously in the Pastures, the very Butter made of their Milk had so rank a taste of the Herb, that though I was not, yet divers other strangers were, thereby diverted from eating of it, though otherwise fresh and good. And I remember too, that having pass'd a Winter on the Sea-coast of the County of *Cork* in *Ireland*, I found it a known observation,

that a ſort of greedy Sea-fowl, whoſe name comes not now into my mind, living almoſt wholly upon Fiſh, (upon whoſe ſcholes I have ſometimes wondered to ſee ſuch a multitude of ravenous Fowls attending) they acquire a Taſt that makes ſome pleaſantly Queſtion, whether the food they afford be to be reputed fleſh or fiſh. But how conſtantly the Particles of divers Bodies may retain their nature in all the digeſtion, and ſtrainers they paſs through, I have more amply diſcours'd in another Tract, *About the concealments and diſguiſes of ſeminal Principles*. And I preſume I have here ſaid enough, to allow me to proceed to the fourth part of my anſwer.

4. I conſider then, in the laſt place, that whereas 'tis objected, that ſo ſmall a quantity of the matter of a Specifick, as is able to retain its nature when it arrives at the part it ſhould work on, muſt have little or no power left to relieve it. This difficulty will not much ſtagger thoſe that

that know, how unsafe it is to measure the power that natural Agents may have, to work upon such an engine as the Humane Body, by their bulk rather than by their subtilty and and activity A sober Gentleman, that was Governour of a Colony in the Torrid one, and commanded a War-like *English* Vessel, that sail'd up very far in the great River of *Gambia* or *Gambra* in *Africk*, and staid there some time to trade with the *Negro's* of the Inland Countrey, being inquired of by me, among other things, about the Poysons that are said to be extraordinarily powerful in the Parts he came from; he answered me, that the Blacks had a Poyson, that was, though somewhat slow, yet very mortal; in so small a dose, that it was usual for them to hide enough of it to kill a man, under one of their Nails, which they wear somewhat long: Whence they would drop it so dextrously into the Drink, or Milk, or Broth or other Liquid Aliment of those they ow a spite to, that 'tis scarce possible

possible for a stranger to be watchful enough to prevent it. For which reason, as he told me, though he sometimes eat with their petty Princes, or Governours, at the same table, yet he would never eat out of the same dish, nor drink out of the same Cups with any of them. He added that, in another part of *Africa*, a famous Knight, who commanded the *English* there, and lately died a ship-board in his way home, was so poysoned at a parting Treat, by a young *Negro* Woman of Quality, whom he had enjoy'd and declin'd to take with him, according to his promise, into *Europe*. And though my Relator early gave him notice of what he suspected to be the cause of this Indisposition, and engag'd him thereupon to take Antidotes, and Cordials, as Treacle, &c. yet his languishing distemper still increased, till it kill'd him.

I could name a Vegetable Substance, growing in *Europe*, and perhaps not far from hence, which though some Empiricks employ as a Medicine, is so

so violently operative, that a Learned and famous Modern Physitian relates, that no more than half a grain would work so violently, as to cause very dangerous *Hypercatharses*, of which though he remedy'd some, yet he was not able to keep all from being Mortal. And because many ingenious men deny that our *English* Vipers are poysonous, I shall add in favour of the Argument that I have been enforcing, that I know a Young man, who having been bitten by an *English* Viper, which he too rashly laid hold on, though the tooth pricked but his hand, yet the venom, convey'd by so small a hurt which perhaps equal'd not in quantity the hundredth part of Pins head, quickly produc'd in him the bad Symptoms that usually follow the Biteing of that Serpent, ; And among others (for I particularly ask'd him about that) a violent vomiting of ill condition'd stuff. I know also a person, that practis'd Physick in the Isle of *Iava*, where Scorpions are held to be more

venomous

venemous than in *Italy* who having, after he had drank some what freely, provok'd, and bin stung by, a Scorpion, thô the Hurt was but in his Thumb, and was so small that I could not perceive the least scar it had left, that it put him presently to such violent tortures, for some hours, till he had procur'd Specifick remedies, that he look'd upon himself a dead man; and felt so raging a heat within that he thought (to use his own Expression) that hell-fire was got into his Body. Nor is it only by mere poysons, that a Humane Body may be greatly affected, thô the agent be but very inconsiderable for bulk and weight, for we see, that divers Women, otherwise strong and healthy, will be cast into sounding fits, and perhaps will complain of suffocation, and be put into convulsive Motions, by the fragrant Odours of Musk, or Civet; though if all the *Effluvia*, that cause these Symptomes, were reduc'd into one aggregate, this would not probably amount to a hundredth, nor perhaps to a thou-

sandth

ſandth, part of a grain. And I have oftentimes ſpeedily ſuppreſs'd ſuch fits, by the odour of the volatile Salts Harts-horn, Sal Armoniac, or the like, or of deſtill'd Spirits abounding with ſuch Salts; though perhaps all the Particles, that actually relieved the patient, and calm'd theſe frightful Symptoms, if pack'd together, would not have equal'd, either in bigneſs or in weight, the tenth, not to ſay the fifteenth, or the hundredth, part of a grain of muſtard-ſeed. And as for inward remedies, 'tis vulgarly known, that in the infuſion of *Crocus Metallorum*, the Corpuſcles that render the Liquor vehemently vomitive and Purgative, are ſo very minute, that great proportions of Wine, or other Vehicles may be ſtrongly impregnated with them without any ſenſible diminution of the Body that parts with them. And of this we have a not leſs, if not more, conſiderable inſtance, when Quick-Silver is decocted or long infus'd in common Water. For *Helmont* obſerves that, though

though the Liquor be not altered in Colour, or Taſt, nor the Quick-ſilver at all ſenſibly chang'd, nay nor grown any thing lighter in a ballance, yet the Liquor does, by means of theſe inſenſible and unponderable Effluxes of the Quickſilver, acquire a notable virtue againſt worms ; for which purpoſe not only *Helmont*, but before him that experienc'd Chymiſt *Hartman*, and another eminent Writer, extoll this Medicine. And on this occaſion I remember that a fine Boy, born to be heir to a very illuſtrious family, falling into a dangerous Feaver, which was judg'd to proceed from worms or verminous matter; a famous and Experienc'd Phyſitian, that treated him, confeſs'd to me, that he was out of hopes of him ; Becauſe the Child, having been bred to have his will, and tir'd with unſucceſsful Remedies, was ſo obſtinate and carefull in refuſing to take any thing, that ſmeld or reliſh'd of a Medicine, that he forbore, in ſpite of all the art uſ'd to deceive him, even to drink tin-

any thing but ſmall Beer Whereupon I perſwaded both the Doctor, and the Lord, whoſe ſon the child was, to impregnate his ſmall beer with Mercurial particles, by frequently ſhaking it with good Quick-ſilver in it. By which means the patient, perceiving no change of Colour or Taſt in the Drink, ſwallow'd it greedily, and through the bleſſing of God was ſoon after reſtor'd to a Health, which the Parties concern'd aſcrib'd to the Mercurial remedy.

I ſhould condemn my ſelf, for having beſtowed ſo many words upon one objection, but that I hope the Anſwer, given to it in this place, will facilitate and ſhortens ſeveral things relating to my preſent Subject, *Specifick Medicines*. About which I ſhall now proceed to offer my thougths in ſome Propoſitions, and ſhort diſcourſes upon them.

Having now diſpatch'd the firſt of the two formerly propos'd Inquiries, I proceed to the ſecond, namely, whether the Mechanical *Hypotheſis*

fis can be accommodated to Specifick Medicines, ſo as that they may be either intelligibly explicated by it, or at leaſt ſhown to be reconcilable to it. I preſume you will eaſily believe, that there are few writers more inclinable, than I am, to confeſs the dimneſs of our knowledge, and the obſcurity of many things in nature; or that are more forward than I to grant, that many of the operations, of Specifick Medicines, are to be reckoned among thoſe abſtruſe things, whereof nature ſeems to affect the concealment. But notwithſtanding this, when I conſider how comprehenſive and fertile the principles of the Corpuſcular Philoſophy are, I cannot deſpair but that it will be found, that divers of the effects of theſe Medicines may be, in a general way explicated by them, and not any will appear inconſiſtent with them. This I deſire may be here taken notice of once for all that, retaining the Scope of the following diſcourſe ſtill in your memory, you may not think

it

it ſtrange, that I content my ſelf, on moſt occaſions, to give in general poſſible explications, and to ſhew that Specifick Medicines may operate on ſome ſuch account as I propoſe, without affirming that they certainly do ſo. I obſerv'd ſoon after the beginning of this Paper that there were three ſorts of virtues to which Phyſicians (thô not unanimouſly) have given this Title of *Specifick* ; namely *ſuch* as evacuate ſome particular humour, ſuch as are peculiarly friendly to this or that part of the Humane Body, and *ſuch* as in an unknown way cure or much leſſen this or that determinate Diſeaſe. But yet I ſhall now apply my diſcourſe peculiarly to the laſt ſort of theſe Medicines, as being both more conſiderable in it ſelf and the chief ſubject intended in preſent Diſcourſe, giving nevertheleſs, as occaſion ſerves, ſuch additional Hints and obſervations, as may make the Reflections, belonging to this Third ſort of Specificks, eaſily applicable *Mutatis Mutandis* to the other two.

And I shall begin with laying here for a foundation what I have in another Treatise had occasion to deliver and make out, namely, That a living Humane Body is not to be look'd upon as a mere statue, or a mere *Congeries* of the Materials 'tis compos'd of, Flesh, Blood, Bones, Fat, Nerves, Veins, Arteries, &c. But an admirably fram'd Engine, consisting of Stable, Liquid, and Pneumatick Substances, so exquisitely adapted to their respective functions and Uses, that oftentimes the effects of an agent upon it are not to be measured so much by the power of that agent considered in it self, as by the effects that are consequently produc'd by the action of the parts of the Living Engine it self upon one another.

This premis'd, I consider, that there is no need to grant that the operations of all Specificks, or of the same in differing Diseases, must be of one kind; but that differing Specificks may operate in several manners, and some by one of these ways may oppugn

pugn such a disease, and others may do good against such another. And of these general ways I shall briefly propose six or seven that now occur to my thoughts. For having first given you this important caution, that the Specifick Remedy do's not commonly (though sometimes it may) relieve the patient by this or that single way of operating, but by a concurrence of two or more, that as it were joyn their forces to produce the desired effect.

PROPOSITION. I.

And first, sometimes the Specifick Medicine may cure by discussing, or resolving the morbifick matter, and thereby making it fit for expulsion by the greater common shores of the Body, and the Pores of the skin.

'Tis known that many Diseases, and those oftentimes stubborn and Chronical, proceed from certain tough or viscous Humours, that obstruct the passages whereby the blood should

circulate, or other usefull Liquors be transmitted. And these peccant Humours are oftentimes so viscid and obstinate, that ordinary Remedies will do little or no good upon them. And yet a Specifick may, by the smalness, and congruous Figure of some of its Corpuscles, get through the Pores into the Recesses of this stubborn matter; and by their *solidity*, *Figure*, and *Agitation*, promoted by the heat of the patients Body, may dissolve and ruine the texture of the Morbifick matter, and render it capable of being proscribed by nature, by Urine, Sweat, or some other commodious and innocent Evacuation. Thus the blood, or some other Liquor of the Body, being (to use the Chymists Phrase) impregnated with the friendly and operative Particles of the Remedy, becomes an appropriated *Menstruum* in referrence to the Pecant matter: impregnated with Sal Armoniack becomes a *Menstruum*, that by degrees will dissolve both Copper and Iron, as compact bodies as they are. I said *appropriated Menstruum*, because

cauſe there is no ſufficient reaſon to ſuppoſe, that the *Menſtruum* works by any manifeſt quality, as Heat Moiſture, &c. or even by Acidity it ſelf: But rather by virtue of the fitneſs, which the ſhape, bulk, ſolidilty, and other Mechanical affections of its particles, concur to give it, to disjoyn the parts of a body of ſuch a determinate Texture. For as I have in another Paper amply ſhewn, there are far more *Menſtruums* of diſtinct ſorts than are commonly taken notice of, and the operations of theſe cannot ſafely be meaſured by the ſtrength of their manifeſt qualities, ſince it may ſeveral times happen, that a *Menſtruum*, leſs acid or leſs ſtrongly taſted, may diſſolve this or that body, which another *Menſtruum*, that ſeems far ſtronger, will not work on. Thus cold water will diſſolve the white of an Egg, which pure ſpirit of wine will be ſo far from diſſolving, that it will coagulate it; [and ſo will ſpirit of Salt and Oyl of Vitriol it ſelf.] Thus dephlegm'd ſpirit of Urine

will readily dissolve minute filings of Copper, which spirit of Vinegar will but slowly work upon; and yet this Liquor will speedily dissolve Crabs Eyes, which spirit of Urine will leave entire. Thus Quicksilver, that is insipid, will in the cold dissolve Gold, which *Aqua Fortis* it self, though assisted by exeternal heat will not work upon; and yet *Aqua Fortis* will furiously bear asunder the parts of Iron, though Quicksilver will not so much as adhere to its surface. And thus in fine (not to accumulate instances) common Oyl, that is so smooth upon the Tongue, and will not dissolve so much as an Egg-shell, will dissolve Brimstone, which yet will resist *Aqua Fortis* it self, that will dissolve almost all Metals, beside many hard Stones and Minerals. And I know a liquor, having more than once prepar'd it, which, though so weak that one may drink a Wine Glass full of it pure without danger, will yet work on some very hard bodies, both Stones & Metals,

Metals, in a way that is not to be matched, among the highly corrosive *Menstruums* in use among Chymists.

And now, supposing that the active Corpuscles, of a specifick Medicine associated with the blood, or other Vehicle they impregnate, may act upon the morbifick matters they meet with in the body, after the manner of a *Menstruum*; supposing this I say, we may hence illustrate several things that have reference to the operation of specifick Medicines.

1. And we may hence derive a Guess, why an appropriated Medicine will perform things, which will not be done by another, whose manifest qualities seem to be the same for kind, and much stronger in degree. For *Menstruums* do not always act according to the degree of their Acidity, or the like sensible quality, but according to the congruity of their Corpuscles to the pores of the body they are to dissolve; and also oftentimes according to a fitness that depends upon other Mechanical Affec-

tions of the acting Liquor. And therefore Phyſicians, as well as others, may eaſily miſtake in their Argumentations *à majori ad minus*, *& à minori ad majus*. For the conſequence is not good to argue either thus, Water, which is ſo ſtrengthleſs Liquor, will diſſolve Gum Arabic, therefore highly rectified ſpirit of Wine, which is a much more ſubtil and penetrateing Liquor, will doe the ſame thing more powerfully; for Experience ſhews, it will not diſſolve it at all: or thus, ſtrong Oyl of Vitriol is more corroſive in taſte, and will diſſolve many bodies that *Aqua Fortis* will not, therefore it will alſo diſſolve Silver as well as *Aqua Fortis*, the contrary of which is true. Nay 'tis not a good inference to argue thus, *Aqua Fortis* diſſolves Silver by virtue of its acid Spirits, therefore the more it abounds with theſe, the more potently it will diſſolve that Metal, whereas I have elſewhere prov'd by Experience, that if *Aqua Fortis* be made exceeding ſtrong, it will not work

work upon Silver, but it will readily do it if it be weakned by the addition of a fit quantity of Common Water.

To this I shall add, that the dissolution of a Body may depend, as well upon the peculiar texture of the body it self, as the manifest strength of the *Menstruum*.

2ly. The foregoing Doctrine may suggest a Reason, why a Medicine that does wonders in one disease, may do little or nothing in another, that some may think to be a-kin to it, and perhaps too, more easily superable by it. For the presum'd cognation may not be so great, but that some dissimilitude of texture in the morbifick matters, may make one of them unfit to be wrought upon by the same *Menstruum* that dissoloves the other. And though pure Spirit of Wine will easily enough dissolve *Gummi Guajacum*, and also the little portion of resinous matter that are harbour'd in the Pores and small cavities of the Wood; yet the same *Menstruum* will

not

not work upon the Wood it self of the Tree that affords those soluble Substances.

3. This may keep it from being thought strange, that Specifick Medicines should sometimes fail of their usual Effects. For, *as* the Bodies of individual Patients, may differ very much, either according to their natural Constitution, or to that which they acquire by the disease that distempers them, or on both those accounts; *So* it ought not to seem strange, that in some sick Persons among many, the congruity between the agent & patient should be alter'd, either by some considerable change in the Texture of the Morbifick matter, or by some notable alteration that the Corpuscles of the Medicine receive in their passage through the Vessels, by the admixture of some incongruous Particles of the Blood or other Vehicle. Thus Spirit of Salt will, as I have try'd, dissolve Copper, as Spirit of Niter does: which notwithstanding, thô this last nam'd Liquor will dissolve Silver,

ver, yet if you mix with it Spirit of Salt, which by the like operation of both upon Copper, seems to be amicable to it, the Spirit of Niter will no more be able to dissolve Silver, as it could before.

4thly. Our *Hypothesis* may also hint to us an answer to one of the main and most plausible objections of the deniers of Specifick Medicines. For some of them ask in a Scornful way, how 'tis possible that a Medicine should rove up and down in the Mass of Blood, and neglecting all other things, should single out, and fasten upon the Morbifick matter men wish it should proscribe. For if the Medicine acts by impregnating the Blood, or some other Liquor of the Body, and turning it into a kind of *Menstruum*, 'tis very possible, both that the strainers through which the Corpuscles must pass, may keep back the inconvenient parts of the vehicle, and (which is in our case more considerable) the *Menstruum* may be either appropriated to the peccant Humour,

as

as has been formerly declar'd, or elſe may at leaſt be qualify'd, to reſolve that more eaſily than any other Subſtance it meets with in the Body. As if you take ſome Bone-aſhes, and *Crocus Martis*, and Saw-duſt, and powdered Sea-Salt, and Filings of Gold, and blend all theſe together, if upon one half of this mixture you pour common Water, it will not meddle with any other of the Ingredients except the Sea-Salt, which it will readily diſſolve: & if upon the other half of the ſame mixture, you put a ſufficient quantity of Quick-ſilver, and rub them together, this Metalline Liquor will neglect all the reſt of the Ingredients, and the Sea Salt it ſelf, and faſten upon the Gold. And thoſe that work in the Spaniſh Gold-mines inform us, that when they have well ground ſome Ore, that contains Gold and Copper, beſides Heterogeneous Minerals, well heated Quick-ſilver will take up the Gold much ſooner and better than it will the Copper, ſcarce meddling with the latter, as long as

as there remains any not despicable quantity of the former, to be wrought upon by it. And as for the supposed difficulty, that the Medicine should Ferret out, if I may so speak, the morbifick matter, in what vessel soever of the Body it lies, this objection might have been considerable, before the discovery of the Bloods circulation: But 'tis not so now that we know, that things that once get into the Mass of Blood, are presently whirl'd about with it, and may be convey'd by it even to small vessels lying in the remotest Parts of the Body.

5thly. And this prompts me to take notice, that our *Hypothesis* may help us to answer those many learned Physicians, that either reject, or at least despise, most External remedies, especially *Pericarpia*, *Amulets*, and *Appensa*, upon a supposition, both that they neither can furnish the Body they do but externally touch, with any store of Medicinal Particles; and which is chiefly in this place to be

consider'd,

consider'd, that being but external remedies, they must be very unable to do good in Internal diseases, especially such as are seated in Parts, remote from those which the Medicine is apply'd to. But as to the former part of the objection, 'twill not be difficult to answer it to him that has read what I have elsewhere written of the subtility, numerousness and efficacy of *Effluviums*. And we need but consider, what plenty of Particles sensible to the nostrils, are for a long time emitted by a small quantity of Amber-greece, or even of Camphire (which is often externally us'd) and the multitude of Magnetical Corpuscles, that for many years constantly effluviate from a small vigorous Load stone, to think it possible that even dry and stable Bodies may afford sufficient store of *effluvia*, to perform considerable things in so curiously fram'd an Engine, as the Humane Body is; where we see that the odour of Musk, or Civet, for instance, may speedily cast divers Persons into Fits, and the smell of

of Castor or *Assa fætida*, and much more that of Salt of Harts-horn or of Sal Armoniack, quickly relieve them. And as to the Second Part of the objection, what I have elsewhere made out, and the best Modern Physicians grant, of the Porosity of the Skin, shows, that 'tis very possible for the subtil *Effluvia* of several Bodies, to get through the Pores of the Skin; and when they have once got admittance, so much as into the smaller Vessels, 'tis easie to conceive how these may carry them into the greater, and consequently into the Mass of Blood, by whose Circulation they may be readily conveyed to all the Parts of the Body, and among them to the seat of the disease: & perhaps, (to add that upon the by,) the efficacy of these Corpuscles, that, if I may so speak, get in at the Key-hole, not at the Door, may be the more considerable, because they get presently into the Mass of Blood, without passing thrô those

The Essay of the Porosity of Animal Bodies.

Digestions

Digestions in the stomach and other Parts, which oftentimes much weaken the vertue of Medicines taken in at the Mouth, before they arrive at the Blood.

PROPOSITION. II.

Sometimes a Specifick Medicine may mortify the over Acid, or other immoderate Particles that infest the Mass of Blood, and destroy their coagulatory or other effects.

Thô I am not of their opinion, who of late are wont to impute almost all Diseases to acidity, abounding in the Blood and other Liquors of the Body, by whose intervention the stable parts also are offended; yet I readily grant that a considerable number of Distempers are, at least in great part, produc'd either by Acids themselves, or by their bad effects or Productions. Agreeably to which Doctrine we may very probably conceive, that several Maladies may be either quite cur'd,

cur'd, or much lessen'd, by a Specifick Remedy that abounds in Corpuscles fitted to mortify Acids. This mortification may be effected by more than one way, and of these wayes the chief that now occur to my thoughts, are two.

For there are some Bodies, that mortify or disable Acids by a *positive Hostility*, if I may so term it; that is, by such a contrariety as is discernable by the Taste, and more by the visible conflict, and manifest Tumult, that is produc'd, when they come to invade an Acid. Of this sort of mortifiers of Acids, are the most part of those that are call'd *Alcalisate Salts*. Whether *fixt*, as the Lixivial Salts of Plants, or *volatile*, as the Spirits and ascending Salts of Urine, Blood, Harts-horn, Soot, &c. As may be exemplify'd, when any of these comes to be mingled with *Aqua fortis*, Spirit of Salt, Oyl of Vitriol, or the like Acid Liquors, by which by the way we may see, that those Galenists mistake, who ascribe the vertues of Spirit of Harts-

horn, and of Urine, only to their tenuity of Parts, Briskneſs of Motion, and the like affections, that they might not ſeem beholding to the Chymiſts for ſo uſeful a notion, as that of the contrariety of Acids and Alcalies.

The other principal way, by which Acids may be mortifi'd, or diſabled to bite, is by *Sheathing* them, if I may ſo expreſs it. For *as* a knife may be diſabled to cut, either by filing off or otherwiſe blunting its Edge, or elſe by covering the Blade with a ſheath fit for it, or by ſticking it into a Loaf of Bread, or the like Body fit to receive and detain the whole Blade; ſo an Acid Corpuſcle may loſe its power of cutting or pricking, either by having its Figure ſpoil'd by the action of a ſtrong and manifeſt Alcaly, or elſe by being as it were ſheath'd in a Porous Body, thô perhaps endow'd with no Taſt, or any other manifeſt Quality, by which one would think it contrary to the Acid it diſables, as a file is to the edge of a knife.

Of

Of this way of mortifying Acids, Chymical operations afford us many instances, as when *Menium* destroyes the Acidity of Spirit of Vinegar, as I have foundChalk will do that of *Aqua Fortis* it self;and *Lapis Calaminaris* very much lessens, as well as alters, the Acidity of Spirit of Salt, and even of Spirit of Niter. And I the rather mention this Mineral, both becaus̃e its Qualities are less known to Physicians, and the generality of Chymists, and becaus̃e it supplies me with an Argument to prove that Acids may be, thô I do not think they alwayes *are*, rather sheath'd in, than destroy'd by the Bodies that silently mortify them. For, as *Glauber* has truly enough observed, Acid Spirits (as I have try'd in some) may by force of fire be driven in Distillation out of the *Lapis Calaminaris*, very much dephlegm'd, and stronger than before.

I know it may be here objected, that the Mortification of Acids is per-

form'd by a manifeſt Quality, and therefore makes nothing for the favourers of Specifick Medicines. But to this I anſwer.

1. That the power of mortifying Acids, eſpecially by ſheathing them, or if you pleaſe, by Abſorption of them, is none of thoſe Qualities, whether Firſt, Second or Third, that the former Phyſicians took notice of in Medicines; thô the ſufficiency of theſe Qualities to cure diſeaſes, has been, and ſtill is, us'd by many as a ground of denying the Specifick vertues of remedies.

2. That I have often look'd upon it as an happy miſtake, and of ill conſequence, that ſo many learned modern Phyſicians take it for granted, that if a Medicine be endow'd with a manifeſt Quality, as Acid or Alcaliſate, the *good* it does, (and the like for the moſt part may be ſaid of the *Harm*) may ſafely be abſcrib'd to that Quality, that is to its being of an Acid, or elſe of an Alcaliſate nature; whereas in my poor Judgment, there being

being a considerable disparity, as various Tryals have assur'd me, between Acid and Acid, as likewise between Alcaly and Alcaly, 'tis fit to distinguish betwixt an Acid for instance, as meerly such, and the peculiar modification that may belong to that Acid. Thus, thô all Acid *Menstruums* that I know of, if they be well dephlegm'd, will dissolve Copper, yet *Aqua Regis* that will dissolve not only that Metal, but the much more closely compacted body of Gold, will not at all dissolve Silver; as on the other side *Aqua Fortis*, as corrosive a *Menstruum* as it is, will not of it self dissolve Gold, but if you give it a new Modification, by adding to it common Spirit of Salt, which it self I have often found (whatever Chymists think or have written to the contrary) will leave it entire, the *Aqua Fortis* will easily dissolve that Metal. Nay a different Modification may not only make a *Disparity* between Acid, but that which according to the receiv'd way of Judging, ought to be call'd a *contrariety*

riety: for Spirit of Salt will precipitate Silver, which *Aqua Fortis* has diſſolv'd, and Spirit of Niter, thô one of the Acideſt *Menſtruums* we have, will not only precipitate an Antimonical powder out of that odd ſubſtance, that Chymiſts call *Butter of Antimony*, but will do it with a wonderful conflict, tumult, and efferveſence; and yet this Butter of Antimony is ſo highly Acid, that a little quantity of it, put into a conſiderable one of Water, makes it ſo ſour, that many Chymiſts call it *Acetum Philoſophorum*. And now to apply theſe things to the lately propos'd objection, I deſire it may be remembred, that near the beginning of this Letter I plainly intimated to you, that I did not deny, but that a Specifick Medicine may ſometimes be accompany'd with, or even in part operate by a manifeſt quality, but that yet I thought the good effect was not due, barely to the kind or degree of the manifeſt Quality, but to ſomewhat ſuperadded which gave it a Specifick vertue,

againſt

againſt this or that particular Diſeaſe. And ſuitably to this it may be ſaid, that, as there are ſeveral kinds of Acids, and of Alcalies too, 'tis not every Acid that will be mortifi'd by every Alcaly; and have its Effects deſtroy'd by it, which may be illuſtrated by this, that, *thô* when Copper is diſſolved in *Aqua Fortis* 'tis poſſible, by the help of meer Chalk skilfully apply'd to make the *Menſtruum* let go the Corpuſcles of the Metal, *yet* if upon ſuch a high colour'd ſolution of Copper, you ſhall pour (as to convince ſome ingenious men, I have purpoſely done a due quantity of Spirit of Urine, or the like volatile Alcaly, thô there will preſently enſue a great conflict and manifeſt ebullition, with noiſe and ſtore of Bubbles, yet between theſe Hoſtile Salts, a multitude of the Acid Corpuſcles of the *Aqua Fortis* will not be ſo mortified, as to let go the Metal, but the ſolution varying its colour, will have and keep a deeper one than before.

And when I conſider the differen-

ces that a Skilful Obſerver may find, between Vinegar, Alum, Cryſtals of Tartar, Juice of Lemmons, Juice of Barbaries, the eſſential Salts (as Chymiſts call them) of thoſe Plants that are ſour in Taſt, to omit divers other Acids, I am apt to think, that diſorder'd nature may have, in a diſeaſed Body, produc'd Acids of ſeveral ſorts which are not particularly known to us, and that ſome of theſe may be of ſuch a nature, that none of our common Alcalies, as ſuch, is able to mortify them, and which yet may be mortify'd, at leaſt by the way of Sheathing, by ſome appropriated or peculiarly modify'd Corpuſcles of a Specifick Remedy which may be illuſtrated by what is elſewhere obſerv'd, that, thô neither Spirit of Vinegar, nor Spirit of Salt, nor Oyl of Vitriol it ſelf, would, as far as I have try'd, diſſolve a ſtone taken out of a mans Body, yet Spirit of Niter, (which does not diſſolve ſeveral Bodies, that I have found diſſoluble in Oyl of Vi-

triol)

triol) will readily work upon it, and thereby lose, its Corrosiveness.

Before I leave this Subject, 'twill not be amiss to intimare a couple of things, that perhaps you will not think impertinent to it.

One of these is, that, whereas I not long ago distinctly nam'd Acids themselves and their Productions, I did it (not out of Inadvertence, but) because I think Preternatural Acids do not only disaffect the Body whilest they continue sensibly Acid, but may in divers cases be the causes of some Distempers, whereof most men would think them more likely to be the remedies. For, *thô* Acids be reputed to have an Incisive and Resolutive vertue, and therefore *Oxymel* and some other Acetous Medicines are commended to cut tough Phlegm, and Spirit of Vitriol is us'd for the same purpose, and to dissolve coagulated Blood ; *Yet*, as I am willing to grant this vertue unto Acids in some cases, so there are others wherein I much

suspect

ſuſpect, that obſtructions, and conſequently the diſeaſes that uſually attend obſtinate ones, may be occaſion'd by Acids, as they coagulate ſome Fluids in the Maſs of Blood, that are diſpos'd to be thicken'd by them, and by that conſiſtence made unfit to paſs with the reſt of the circulating Blood, through the ſmaller Veſſels and ſtrainers of the Body, where upon that account they make obſtructions. This I ſhall exemplify by the coagulation that I have made by ſome Acid Salts, as Spirit of Salt, of the White of an Egg, eſpecially if by beating reduc'd to an Aqueous Conſiſtence. And the like coagulation may eaſily be effected in Milk, which may not only be ſpeedily curdl'd with Spirit of Salt, but, as is known by Bodies not Chymically prepar'd, as Rennet and Juice of Lemons. And Experiments purpoſely made have ſhown, that, if ſome Acids be convey'd immediately into the Maſs of Blood, they will coagulate even that Liquor, whilſt it continues

tinues in the Veſſels of the yet living Animals.

The other thing I lately told you, I was to obſerve, is, that, *thô* Acid Corpuſcles are thoſe, that modern Phyſicians and Chymiſts are wont to take notice of as hurtful, both in the Blood and ſtable Parts of the Body, except the Stomach, and perhaps ſome few neighbouring Parts, as the Spleen and *Pancres*. And, *thô* ſome ingenious men proceed ſo far, as to impute almoſt all Diſeaſes to the bad Effects of *Acids*, yet I am very inclinable to think, that divers maladies and ttoubleſom Symptoms proceed from Corpuſcles, that, whether they be of a Saline nature or not, are different from Acids properly ſo call'd. For I conſider, that there may be many Bodies, which may as 'twere reſult from the combination of Acids with other Saline Particles, that much alter their nature, as I have elſewhere noted, that Spirit of Salt will, with Spirit of Urine, compoſe a kind of Sal-Armoniac; and Spirit of Niter with Salt of

Tartar

Tartar dissolv'd in common Water, will concoagulate with it into Salt *Petre* (or a Body exceeding like it,) and the same Spirit of Niter or *Aqua Fortis* with Spirit of Urine, or of Blood, or the like, will afford a very fusible Salt, differing enough from what either of the Ingredients was before their conjunction. And 'tis vulgarly known, that Oyl of Vitriol, and Oyl of Tartar *per deliquium*, do by their coalition produce *Tartarum Vitriolatum*, in which the Acidity of the former, and the Alcalisateness of the latter, are very much infring'd, a third Body being by resultancy produc'd, that differs much both from the former and the latter *Oyl*, or rather *Saline Liquor*. And when, besides Instances of this nature, I consider how many differing sorts of Corpuscles so fruitful a Principle as *nature* may have form'd, that, without being Acid, may yet have notable and hurtful Effects upon the Blood, or some particular solid part of the Body. It seems probable to me, that there may

may be other Qualities requir'd, to mortify or disable these Morbifick Corpuscles, than a contrariety to Acid Salts, and consequently, that a Medicine that affords Corpuscles peculiarly fitted to correct or enervate this particular sort of hurtful ones, may deserve the name of a *Specifick*.

And here I further consider, that, as in the Body there may be divers coagulations made by Saline Corpuscles manifestly Acid; so there may be others produc'd by Corpuscles, whether Saline in taste or no, that are not manifestly Acid, but perhaps rather of a contrary nature, which observation, being wont to be overlook'd by Physicians, and yet in my opinion of no small importance, may deserve to be a little the more carefully made out. I have sometimes for curiosity made a Liquor, that was not in Taste either Acid or Urinous; to which having put a moderate proportion of a distill'd Liquor, which it self was not in taste ei-

ther Acid, or Urinous, or lixiviate, it would in a very ſhort time, perhaps in not many minutes, be coagulated into ſo conſiſtent a Body, that, thô the wide mouth'd Veſſel were held with the Orifice downwards, nothing would fall out of it.

I have taught in another (unpubliſh'd Paper, that if upon a certain ſolution (which I there ſhow how to make) one drop ſome Spirit of Urine, or anorhet Volatile Alcaly, there will preſently be produc'd a Gelly, whoſe conſiſtence and colour may make it eaſily be taken for common Starch, ready to be imploy'd to ſtiffen Linnen.

The like Gelly, but more tranſparent, I have more than once made, without the help of any thing, that is ſenſibly Acid or Urinous.

I have alſo, to convince ſome *virtuoſi*, ſhowed them ſomewhat to their ſurpriſe, a ſubſtance I had prepar'd without the help of Urine, or any volatile Alcaly, (and ſometimes

times almoſt in a trice) that would in very few minutes coagulate above twice, if not thrice its weight of highly rectify'd and inflamable vinous Spirit into a ſtable Maſs.

And to ſhew you, that 'tis not requiſite that a Liquor be ſtrongly, or ſo much as ſenſibly Acid, to coagulate an Animal Subſtance, as I lately noted, that the Spirit of Salt did the White of an egg, I ſhall add, that well dephlegm'd Spirit of Wine will do the ſame thing as well, if not better.

PROPOSITION III.

Sometimes the Specifick Medicine may help the Patient, by precipitating the Peccant matter out of the Blood, or other Liquor (of the Body) that harbours it.

Thô Precipitation be oftentimes a conſequent of the Mortification of Acids, or of Alcalies, by Corpuſcles of

of a contrary Quality, yet I thought fit to say something of it apart: Because I have observed that some Acids and Alcalies may be put together without causing Precipitation by their contrariety; and on the other side, that divers Precipitations may be produc'd where there do's not appear any Hostility, though I know divers ingenious men, who think this Effect it self a sufficient Argument, that the hostility of Acids and Alcalies must be the cause of it. But that should not be taken for granted, but prov'd by collateral Experiments, that do not suppose the Truth of the *Hypothesis* it self. But to proceed to our Exampls, I know (and elsewhere mention) several Urinous Spirits, that I could mix with Acid *Menstruum* without making any manifest Conflict, or Precipitation; And on the otherside, Acids and Alcalies, that will make a manifest Conflict by their mutual creation, and yet if they be mingled in a just proportion, will have for the consequent of their

Mixture

Mixture, Coalition instead of Precipitation; as may be exemplified in certain Mixtures of Spirit of Sal-Armoniac (made with Salt of Tartar, or Pot-Ashes) and Spirit of Nitre or *Aqua Fortis*; and also when Spirit of Urine and Spirit of Salt, being mingled in a certain proportion, convene into Corpuscles for the making of Sal-Armoniac, which the Phlegm of those Liquors will keep swimming. But that which makes most for my present purpose, is, that there may be Precipitations, where, whatever may be suppos'd, it does not appear that there is any Tumult or Contrariety, as when Silver being dissolved in *Aqua Fortis*, and the *Menstruum* diluted with 30 or 40 parts of distill'd Water, or of Rain Water, if clean Plates of Copper be immers'd in the Solution, the Metal will be very slowly Precipitated out of it, in the form not of a *Calx*, consisting of Metalline, and Saline Parts incorporated together, but, at least at the beginning in the form of pure shine-

ing Scales of Silver, almoſt like the white and glittering Scales of ſome ſmal Fiſhes. There is alſo a way, by which I have brought diſſolv'd Gold to ſettle about a Body, ſuſpended in the Solution, in the form of a fine and high-colour'd *Calx* of pure Gold. But you may eaſily ſee an Inſtance of ſilent Precipitation, if you do but rub a little either *Roman* or *Dantzick* Vitriol, upon the well whetted blade of a knife wetted with Water or Spittle, for you will have the Steel, almoſt in a trice, overlaid with a reddiſh ſubſtance, which by its colour and other ſigns appears manifeſtly to be Cupreous. And here I ſhall advertiſe you, that 'tis not only, as is wont to be ſuppos'd, out of Solutions made with Acids, that bodies may be thus Precipitated, for upon ſearch I have found that there are in nature Precipitants, that are capable of ſilently Precipitating ſome Bodies diſſolv'd in Urinous *Menſtruums*, or others not Acid. I know it may be ſuſpected, and that not without colour of Reaſon,

that

that such Precipitations may be dangerous, by producing Heterogeneous Corpuscles in the Blood, that may be too heavy or gross to be evacuated. And I look upon this as a suspicion, for whose Resolution 'twere fit to consult Experience. But in the mean time one may represent.

1. That, thô some Inconvenience may happen from the Bulk of the precipitated Corpuscles, yet that may be much inferiour to the danger threatned by the over-active & hostile Particles, that produc'd or fomented the disease.

2. That, 'tis not necessary that all concretions should consist of Corpuscles so bulky, as to be too big to be thrown out of the Mass of Blood, for we see that stony matter, which, as the Chymical *Analysis* of it shews, is of a very compounded nature, may be carryed to all Parts of the Body. And I remember I knew a Lady, who a while before she told me the Story, had a stone taken out of the lower

part of her Tongue. And Physicians, that prescribe great quantities of Mineral Waters impregnated with *Iron*, such as I found those of *Tunbridge* to be, and with *Sulphur*, such as some of the *Bath* Waters are, are wont to build their expectations of Curing with them, upon a supposition, that they are carryed into the Mass of Blood, and consequently to the innermost parts of the Body.

3. That yet 'tis possible, Precipitations may be made of matters contain'd in the Blood, by Medicines that do not get into the Mass of it. As Physicians give Steel in Substance sometimes crude, as well as oftentimes prepar'd, to mortify the Acidities of the Blood, though the Metalline Corpuscles do not, for ought we know, pass into the Mass of it, but are wrought upon by the matter, that in its circulation is thrown out of it into the Stomach & Guts, where their operation on it is probably inferr'd from the blackness, that Chalybeates are wont give the excrements

of

of the lower Belly; and if they will have it, that prepar'd Steel, for instance, calcin'd with Sulphur, gets through the Pores of the Bowels, or the extremities of the capillary Vessels, into the Mass of Blood it self, 'twill be obvious to demand, why nature should not be able to expel Precipitated Corpuscles at the same passages, at which such compounded Concretions, as those of Sulphur and Metal, can get in.

4. That some may very speciously pretend; that Experience has been already consulted about the expediency of imploying Precipitating Medicines. For not to urge, that the learned and judicious *Sennertus* seems to intimate, that in some cases the Fibrile Matter may be surmounted by being Precipitated out of the Blood; there is a Professor of Physick, who, thô I cannot assent to some of his Principles & Doctrines, has deliver'd several considerable things about Fermentation and Feavers: & this Professor, by name *Kergerus*, very solemnly

declares *, that for fourteen years he cur'd above a thousand Febricitants without bleeding, purging, or sweating Medicines; (to which he adds some others sorts) by a single precipitating Remedy. I endeavour'd to obtain from *Germany* an account of the truth of the matter of fact, but did not receive it; only I found that a Physician of this Emperours, does, in a lately publish'd Book, declare himself inclin'd to believe it to be true.

* *Ego ab anno 1649. in hunc diem per integros 14 annos ultra mille Febricitantes sine Venæsectione, sine Purgatione, sine Sudoriferis, sine Diureticis, sine Alterantibus, sine Corroborantibus, sine Topicis, & si quid præterea unico fere* Medicamento Præcipitante, *Deo inprimis benedicente, curavi: non considerando, an Febris sit Intermittens, an Continua, an Tertiana vel Quartana (quæ tamen difficiliùs curatur quàm aliæ) nec expectatâ Coctione, nec habito respectu sexûs, (ne puerperis quidem exceptis) ætatis, anni, temporis, vel aliarum Circumstantiarum: & quidem paucorum dierum spatio sine Recidiva vel aliquo notabili incommodo, nisi ubi æger ipse per Incontinentiam de novo Paroxysmos provocarit.* Kergerus de Fermentatione, sect. 3. cap. 3. Pag. mihi 250.

I shall much the more easily be induc'd to think, that great and desireable changes may be wrought in

in the fluid Parts of the Body by appropriated Precipitants, if that be true which is unanimously taught by a multitude of Physicians, who impute many Diseases to the Putrefaction of the Blood and other Liquors of the Body. For, *tho* certain Reasons oblige me to desire you, not to ask me any Questions about the Remedy I am going to speak of, because I must not yet Answer them; *yet* I am willing you should on this occasion know Historically, (what probably you will think strange) that there is in *rerum natura*, a certain Substance, which is so powerful an Enemy to Putrefaction, that, when a few grains or drops of it were put into a considerable quantity of Water, that had been kept till it stunk so strongly and offensively, that, if I had not known what it was, I should have judg'd the smell to have proceeded from Carrion. This Medicinal Liquor, I say, (for so I may call it,) being diffus'd by agitation through this abominably stinking Water, (which did not

appear turbid to the Eye) in so very small a proportion, Precipitated out of it a very little and light Feculency, which being separated, the rest of the Liquor was quite freed from all stink; nor did I observe that the Feculency it self had any. And, which is very notable, all this was done in a very few minutes, by a Precipitant, whose Tast was not at all either Bitter, or Acid, or Urinous, or Lixivial. All which are Circumstances, that may afford good Hints to speculative and sagacious Inquirers.

PROPOSITION IV.

Sometimes the Specifick Remedy may work, by peculiarly strenthening, and cherishing the Heart, and by that means, or without it, the Part affected.

This Observation can scarce be made good, without entring into the Controversy, which for its difficulty and importance, has perplex'd divers Modern Physicians; whether there be

be any Medicines, that have a Sympathy with the Head, Heart, Liver &c and thereby deserve the name of *Cephalic*, *Cordial*, or *Hepatic* &c. Or, to speak somewhat more clearly, whether there be any Medicines, that in a peculiar manner do good to this or that particular internal part of the Body. In this dispute the Affirmative part has been held, but I doubt upon slender grounds of reason, in most of the Physick Schools for several Ages. But in our times, many do not only maintain the Negative, but deride the Opinion they have forsaken. For some of them object in a Triumphant Style, that tis ridiculous to fancy such a Sympathy, betwixt a dead Medicine, and the Parts of a living body. As that the Physician may send the Drug, as 'twere of an Errand, to find out one in the dark, among a multitude of others, and do it good offices.

But notwithstanding this, I think it very possible, that a Medicine may so far respect a particular Part, as, though not to be beneficial to that only

only, yet to be friendly to that, in a peculiar manner or degree. And this I conceive it may be, upon one or more of the Accounts, that I ſhall briefly mention.

And Firſt, when I conſider that the ſtable Parts of the Body, as the Heart, Brain, Liver, Kidneys &c. have each its particular ſtructure, wherein it differs from others, and probably the fluid Parts alſo, as Blood, Gall, Lympha &c. have their diſtinct Textures, it ſeems not improbable to me, that the Corpuſcles of a Medicine diſſolv'd in the Stomach, and carryed too and fro by the Liquors of the Body, may according to the determinate ſhape, ſize, ſtiffneſs or flexility, motion &c. be much more fit to be detain'd by one part of the Body, as the Brain, the Heart &c. than by the reſt; and ſo, by lodging it ſelf in its Pores, or aſſociating with its Fibres, may ſupply it with ſuch congruous Particles, as it either does want, or in caſe it do not, may by their congruity be of advantage to it,

it, by re-eſtabliſhing or ſtrengthening the Tone of it. And by this Corroboration, the Part may be made able to reſiſt the Hoſtilities of Morbifick Matters, which Phyſicians uſually obſerve to be wont, by the more *Vigorous* Parts, to be thrown upon the *Weakned* or *Diſtemper'd* ones; as is manifeſt in perſons that are much ſubject to the *Gout*, in whom oftentimes peccant humors are very apt, upon ſeveral occaſions, to be thrown off by the nobler Parts, if they be robuſt, upon the frequently debilitated Joints; on which ſcore the Gout, if it be well managed, is, not irrationally, wont to be thought conducive to long life. And on this occaſion I remember, that I formerly knew a Learned Phyſician, who, though a great Traveller, and, as ſuch, accuſtom'd to great varieties in point of Diet, had ſuch a peculiar indiſpoſition in his Jaw, that though he could moderately drink Wines of ſeveral ſorts without inconvenience, yet the drinking even of a very little Brandy, would

ſoon

soon after give him the Tooth-Ach, of which odd distemper he has sometimes complain'd to me. But this upon the by: For I must now proceed to illustrate and make probable, what I was saying of the possible fitness of some Medicinal Corpuscles, to associate themselves with those of the Part they are to befriend, by observing what happens in Nutrition, especially in that of sucking-children. For in these, one single Aliment, namely Milk, does afford, besides various excrements, such as the grosser *fæces* of the Guts, and the more fluid ones of the Bladder, the Mouth, the Nose, the pores of the Skin *&c.* a great number of Corpuscles, that are not only detain'd, but assimilated by Parts of differing Structures, as the Brain, the Heart, the Bones *&c.* since otherwise these parts could never be so plentifully nourished by them, as dayly to increase in all their Dimensions. And tis considerable, that some Parts, which in Babes are Cartilaginous, do in process of time become Boney,

which

which change seems not probably referable to the bare exsiccation, produc'd by Native heat, increasing with the Persons Age.

Secondly, the friendly Corpuscles of a Specifick Medicine, may not only confirm the good estate of a determinate Part, but, which makes most for our present purpose, they may very much conduce to restore it to a sound condition, when it is distempered, and this they may do upon two or three Accounts.

For in the first place, those friendly Particles may dispose the Obstructing or other Morbifick matter, to be more easily and safely expell'd. And this they may do, not barely *as* they impregnate the whole Mass of Blood, and so may be carried by it, as well to many other Parts, as to that we now consider; but *as* by their particular Texture, Motion *&c.* they may in a peculiar manner respect that peculiar Modification, which the Peccant matter may have acquir'd by being produc'd or harbour'd in that determinate

determinate part: And that the distinct Structure of an affected Part may much diversifie the condition of a Morbifick matter, I argue from this, among other things, that Physicians are wont to teach (though I have found the Observation rather to hold commonly than unreservedly) that in those that are subject to the Stone, the Petrescent matter, when it is bred in the Kidneys is reddish, or yellowish, but when in the Bladder, white, or of a light gray; and that the Stones that are generated in the first nam'd Parts, are more friable, or at least of a slighter Texture, than those that have their Original in the Bladder, some of which are exceeding hard, especially in comparison of large ones, that I have had out of the Bladder or Gall of lusty Animals. The aptness then that the Corpuscles of the Specifick may give the Blood, or other Liquor that conveys them, to act as an appropriated *Menstruum*, upon the peculiarly modified Matter that obstructs, or otherwise disaffects, the

the Liver, for Instance, may enable the Remedy, to be very helpful to that Part, by preparing the molesting Matter for expulsion. But it may also succour the same Part in another way.

For in the second place, it may so work upon the Fibres, and stable portion of the Part affected, as both to enable it, and excite it to free its self from its Enemy. For *it* may give firmness and strength to the Fibres of the part; *it* may also contemperate, or correct the immoderate heat, coldness &c. of it: *It* may mortify the Acid, or other incongruous Particles, that are lodg'd in the minute Intervals of the stable Parts, and perhaps, even in the Pores of the Fibres: *It* may appease its Convulsions, Cramps, or other inordinate motions, that hinder it from daily executing its proper Functions; *it* may relax or widen the Pores, according to the exigency of the work to be perform'd. And having thus, by means of its friendly Corpuscles, prepar'd the matter

matter to be expell'd, and disposed the part to expell it, *it* may then also excite the Part to do its office, by irritating the Fibres, or motive Organs, or stimulating them to disburthen the Part of the Matter that offends it, as a very small Dose of *Cantharides* is known by this way of irritation, to be capable of making the Bladder forcibly, though not safely, discharge it self of Urine, and with that oftentimes expel the Sand and Gravel, or lesser Stones, and the Excrementitious Slime that molested it before.

And this Instance may be of use to us, in answering that which we formerly noted to be so confidently urged by the Rejecters of Specifick Medicines. For here we have a Medicine, though a dangerous one, whose Corpuscles have such a peculiar reference to the Bladder, and Urinary Organs, that though being gotten into the Mass of Blood, they are carried by it indiscriminately to other parts of the Body, as well as to these; yet oftentimes,

oftentimes, without manifestly disaffecting the rest, they exceedingly irritate the Bladder, and determine it to the excretion of what it contains. And whereas it may be objected, that the *first* of the three ways, by which we noted, that a particular Part may be succour'd by a Specifick, seems contrary to the *second*; the former tending to corroborate the Part, and the later to relax and irritate it: I answer two things, *one*, that since the Part may be sometimes in a Natural, and sometimes in a Preternatural state, in the *former*, a Medicine may deserve the name of *Friendly* or *Appropriated*, because it keeps it sound, which is most properly done by strengthening it; and in the *later* it may merit the Title of a *Specifick*, because it helps to restore it to a state of soundness: And the *other*, that though to effect this Recovery, 'tis often very expedient, if not necessary, that the Medicine procure an Evacuation of some matter that offends it; yet that Evacuation

itself is often much promoted and facilitated, by strengthening the Part so, as to enable it to disburthen it self. And the same Medicine may contain, and communicate to the Blood, Corpuscles of such differing shapes, sizes, motions &c. as may at least successively relieve the Part by both these ways; as Physicians observe that Rhubarb does, not only by its finer and Laxative Parts, purge the Liver of Choler, but by its more earthy Astringent Corpuscles strengthen the Tone of that Part: [What farther belongs to the Illustration of this matter will be met with in due place.] On this occasion, 'twill not be impertinent to add, that in some cases, this very Corroboration of a Distempered Part, may restore it to soundness; there being some Diseases of such a nature, that they are, if I may so speak, almost always in *Fieri*, that is, they could not continue to subsist in the affected Part, unless through its debility, and the consequences of it, it were subject to admit from time

time to time fresh recruits of peccant matter, to foment the Malady: And in such Distempers, if the Structure and Tone of the Part be re-established by the operation of the Specifick Medicine, its acquir'd vigour will enable it to resist the Ingress of new supplies of peccant Matter, and to turn them off into the Mass of Blood, to be thence discharg'd by the Common Shores of the Body; whilst in the mean time Nature will be able by degrees to subdue, dissipate, or otherwise dispose of, that comparatively little Portion of peccant Matter, that was lodg'd in the Diseas'd Part.

We have not in this Paper given any Example of the peculiar respect of a Specifick Medicine to a determinate disaffected Part, that one would think so incredible, as that a heavy stony substance, being in no great quantity taken in at the Mouth, should manifestly contribute to the Cure of a broken Bone in one of the Limbs, as the Leg or the Hands. And yet, not to urge the Testimony of

Chymical Writers, I remember a *German* Physician, that was Famous for notable Cures, related Wonders to me of the efficacy of that Stone growing in his Country, which from its effect they call *Osteocolla*, especially if it be improv'd by a Skilful Preparation, which he communicated to me, but I had not opportunity to make Tryal of it. But without Preparation, the judicious and long experienc'd Chirurgeon *Fabricius Hildanus* much commends upon his own Observation a single Dram of it finely Powder'd, for the breeding of a *Callus* to soder together the Parts of a broken Bone: Insomuch that he gives a caution to use it but sparingly in young and vigorous Patients, lest it breed too great a *Callus*, of which he gives a notable Instance. And the like caution was inculcated to me from Experience, by the lately mention'd *German* Doctor, because otherwise (he said) his Preparation would in such Persons make the Medicine generate a *Callus* too soon and too great.

PRO-

PROPOSITION V.

Sometimes a Specifick Medicine may do its work, by producing in the Mass of Blood, such a disposition, as may enable Nature, by correcting, expelling or other fit waies, to surmount the morbifick Matter, or other Cause of the Disease.

He that shall heedfully observe the practise of divers Learned and successful modern Physitians, may discern that many, if not most, of their Prescriptions are founded upon a supposition, that a great Part of the Diseases incident to Mans Body, and the recovery from them, depends mainly upon the vitiated Constitution of the Blood, and the restoring it to a sound Condition.

This advantageous change of the Blood may be effected by a Specifick, several waies, (sometimes separately, and sometimes jointly,) and particularly by those that follow.

1. That which I shall first name, is, by furnishing the Blood with some sort of active Corpuscles, that it needs to *ferment* it, or excite *an useful Commotion or Agitation* in it.

I will not here examine, whether the Mass of Blood, contain'd within the Vessels of a living man, is capable of a *Fermentation* properly and strictly so call'd; and therefore I employ'd also the word *Commotion*, which will be easily admitted, if the other be disliked. But in regard *Fermentation* is a Term that hath generally obtain'd, I shall not scruple to make use of it, after what I have intimated about it.

But because many modern Physitians, especially since the Learned *Dr. Willis*'s Notions came to be in request, have looked upon Feavers and Agues to consist in, or be produc'd by vitious Fermentations of the Blood; I thought fit to add to the *Fermentation* I am about to speak of, the distinguishing Epithete of *useful*.

This

This premis'd, it seems not improbable to me, that, as there is oftentimes a vitious Fermentation of the Blood, so there may be sometimes a want of Fermentation, or a certain Sluggishness, upon whose account, *either* the brisk intestine Agitation, that it ought to have as a warm Fluid of such a Nature as 'tis wont to be in sound Persons, or a due quickness of Circulation through the Heart is wanting: To which Sluggish State of the Blood, if it be obstinate and lasting, several Distempers are wont to be consequent. Now, *although* there be divers Medicines, such as Spices, Brandy, and other Spirituous Liquors distill'd from fermented vegetables, that are usually, and oftentimes succesfully enough, employ'd to correct this dull Indisposition of the Blood; Yet in regard they are wont to be very hot, being usually pitch'd upon by those that prescribe them because they are so; there are several constitutions of

Patients, and divers other Circumstances, wherein they are not safe, but may do more harm by their immoderate Heat, than good by their Spirituosity; Besides, that the Sluggishness of the Blood may sometimes proceed from Causes, that this sort of hot Medicines will not correct. I remember, that having for Tryals sake moderately dry'd a parcel of Human Blood, a *Vinous Spirit* Total inflammable would not, at least in many hours that my Experiment lasted, make a Solution of it, or draw a red Tincture from it, though it were well pulveris'd: Whereas a well rectified *Urinous Spirit* grew red upon it in less than the tenth, or perhaps the twentieth, part of that Time.

Now a Specifick Medicine may abound in Corpuscles of such a Nature, that without dangerously, or incommodiously heating the Blood, they may disable those Corpuscles, they meet with in the Blood, that make that Liquor viscous, or roapy, or dispirited;

pirited; and also by enlivening the Mass of Blood, if I may so speak, or puting it into a more brisk and kindly Agitation, may make it fit to throw off those Heterogeneous Parts, or recrements, that were blended with it before, and to permeate, as freely as it ought, the *Viscera*, whose Capillary Vessels and Pores would formerly scarce, and but very sparingly, admit it.

That a Specifick may perform this, you will perhaps the more easily allow, if you consider, that the generality of Physitians teach, that there are several *Cordials*, which they style some of them *Temperate*, and divers of them *Cold*, (as in effect 'tis not usually observ'd, that they considerably, if at all sensibly, heat the Body;) as Pearls, and some of them, being gratefully Acid, should rather cool it, as Wood-sorrel (*Alleluja*) and Goats-Rue (*Galega.*) And 'tis very possible, that the Corpuscles, that make the Blood thick, and Sluggish, may not be of a Cold Nature, but of

a Hot, and therefore may have their Effects rather befriended than destroy'd by divers Hot Remedies: As, if the white of an Egg be by beating reduc'd to Water, (which is not necessary to the Experiment, but shews it better) if you put to it a certain Proportion of well dephlegm'd Spirit of Wine, instead of destroying the viscosity of the Liquor, it will curdle a good part of it, and thereby produce a Body far more remote from Thinness and Fluidity.

And I remember, I once for Tryal sake made a vegetable Liquor, which, from somewhat Sluggish that it was before, did presently by the Addition of a little Spirit of Wine, grow surprisingly viscous, and roapy.

2. Another way, by which a Specifick may befriend the Mass of Blood, is, by imparting to it a dilatation or tenuity that it wants. This Second way is of much affinity to the First, but yet is not the same: Because in that, the thing mainly considered was, the Fermentation or Agitation of

of the Blood; Whereas this mainly respects the Consistence of it, which is a thing of no mean importance to health. For if the Blood be too thick, as oftentimes it is, it cannot pass so freely and readily, as it ought, through the Capillary Vessels, which thereby come to be by little and little obstructed, and the Circulation inconveniently retarded; Whence 'tis easy to foresee, that divers mischiefs must in time arise. And on the other side, if the Blood be too thin, especially if it be over much agitated too, tis apt to make its way out of the Vessels, and produce Hemorrhagies, in case it flow out of the Body, or other bad Effects that usually attend the Extravasation of the Blood. Which Liquor, when it is out of its proper Vessels, in so warm a place as a Living Human Body, is very Subject to Putrefaction, and thereby apt to produce Impostumes and several mischievous Symptoms.

Now a Specifick Medicine may remedy this faulty Consistence of the Blood,

Blood, by furnishing it with Corpuscles, fitted by their figure, bulk, motion, &c. to disable those peccant ones that make the Blood gross, or else to cut, or divide the Parts of the Blood it self, and so dispose them to be more fluid: Or else they may produce in it such Pores, as may, as it were invite the subtil Ætherial matter, that abounds in the Atmosphære, to insinuate it self into the Mass of Blood, and rarifie it. And on the other side, when the Blood is too thin, as not only some Diseases, but some Medicines, especially Aloes, are wont to make it; A Specifick Remedy may reduce it to a good Consistence, *either*, by furnishing it with Corpuscles, apt to Combine themselves with the active ones, that did too much Attenuate the Blood; *Or*, by helping Nature to expel those over-busy Particles, by insensible Transpiration, or some other undisturbing way.

3. There is yet another way, by which a Specifick Remedy may conduce

duce to rectifie the State of the Blood And that is, by so working on the Heart, as to make it advantageously regulate the Transmission of that Liquor through it.

That a Specifick Medicine may peculiarly befriend this or that particular Part, and consequently the Heart, is granted by the Generality of Physitians, who are wont to reckon up many Cordials, (of which yet I fear, but few deserve that name.) But, since 'tis elsewhere in this Paper shewn, that some Medicines may particularly respect a determinate Part of the Body, and consequently the Heart; One may be allowed to suppose, that the Corpuscles of a Specifick may *either* dissolve some Particles they meet with in the Heart, by which that Noble *Viscus* is by Irritation, or otherwise disturb'd in the Regularity of its Dilatations, and Contractions; *Or*, so Corroborate the Fibres, or Motive Organs of it, as to dispose it to moderate the Circulation of the Blood that passes through

through it, in the most advantageous way. And that the Disposition of the Heart, even when men have no sense of it in the Part it self, may be of moment as to health and sickness, will appear credible, if we reflect on two things. *One*, that a living Human Body is not a meer Aggregate of Flesh, Bones, *&c.* But an exquisitely contriv'd, and very sensible Engine; Whose Parts are easily set a work by proper, though very Minute, Agents; And may, by their Action upon one another, perform far greater things, than could be expected from the bare Energy of the Agents, that first put them into Motion. The *Second*, (which supposes the first,) that the Disposition of the Heart, being, though perhaps insensibly, chang'd, it may produce a notable Alteration in the Motions of the Blood, and its passage through the Heart, in point of quantity, celerity, or both.

How much this change in the Circulation may in many Cases conduce

duce to ſickneſs or recovery may partly appear by the Effects of vehement or durable paſſions of the mind. As 'tis obſerv'd, that in a deep ſorrow, which does in a manner ſtraiten the Paſſages of the Heart, the Blood being too ſparingly diſpens'd, the enlivening Spirits are not generated plentifully enough; And (beſides other bad Effects of this State of the Heart) the Blood is ſo diſpirited, as (in theſe Parts of *Europe*) to diſpoſe the Body to the Scurvy, which does either produce or irritate divers other Maladies. We ſee alſo, that the Paſſion of ſhame does oftentimes ſuddenly alter the Motion of the Blood, and make it ſwell the little Veſſels that lye under the *Cuticula* of the Face, and ſometimes other Parts; as is very manifeſt in young Maids, and other Perſons of a Delicate Complexion, the white Part of whoſe Faces in bluſhing turns Red. The like Effect I have ſeen produc'd by a great and ſudden Joy. And though Grief, which is the oppoſite Paſſion

to

to it, has been usually taken notice of, as a thing that deads the Appetite to meat; Yet so much does depend upon a well moderated Transmission of the Blood, that it has been observ'd in divers Persons, and I have known an eminent Instance of it, that great Joy has very much lessen'd Hunger: Of which Effect *Mr. Des Cartes* ingeniously attempts to derive the cause, from the vary'd Dilatation and Motions of the Heart. And it seems not absur'd to conceive, that such like Motions may be caus'd by the Corpuscles of a Specifick Medicine; Which by affecting the Fibres of the Heart, after the like manner that Joy is wont to do, may produce in it such friendly Dilatations and Contractions, as are wont to flow from the agreeable Passions. In favour of which conjecture, I shall take notice that a Lady of my acquaintance has complain'd to me, that the smell of perfum'd Gloves is wont to make the Blood fly to her Face, and continue there for a great while,

while, giving it such a colour as if shame, or joy had cover'd it with blushes. And the like she says she has observ'd in others of her Sex. But having in another Tract spoken of the power of the Passions of the mind, to alter the state of the Body, by producing changes in the Blood, that is transmitted through the Heart; what has been said may now suffice to make it credible, that a Specifick Remedy, by peculiarly befriending the Heart, may contribute much to introduce, or re-establish a healthy *Crasis* in the Blood. And this being thus rectified, and invigorated it self, may both befriend the Body in general, and conduce to the removal of some particular Diseases, by strengthening, and perhaps too exciting, the particular part, in which the peccant matter resides, to subdue or expel that which it already harbours, and resist any accession of more. And the Blood, being it self well constituted, as well as the stable Parts corroborated, the

Specifick Medicine that produces these good effects, may be said to cure, tho' perhaps but slowly, divers particular Diseases; such as those elsewhere mention'd in this Paper, which to continue, must be frequently supplyed with vitious matter by the Circulating Blood.

EXPERIMENT VI.

Sometimes a Specifick Remedy may unite its Particles with those of the Peccant matter, and with them constitute a Neutrum quid, *that may be easily prescrib'd, or not necessary to be expell'd.*

This I take to be one of the most proper and genuine ways of doing good, that belongs to a Specifick Medicine, as such, because in this operation an effect is produc'd, either without the assistance, or beyond the meer power, of the manifest qualities (as Physicians call them) of the remedy;

dy; and the cure or relief the Patient finds, is usually attain'd without violence, and without tormenting or much disordering him.

This way of working of a Specifick Medicine is of near affinity with one or two of those formerly discours'd of; but yet these ways differ in some things, as may be gather'd by the sequel of § this discourse § sometimes when a certain kind of Acid has impregnated the Blood, or lodg'd it self in some stable part, as the Liver, Spleen, Kidneys, *&c.* The Corpuscles of a Specifick may, without any sensible luctation or conflict, which usually happens when Acids are mortify'd by Sapid Alkalies, be so qualifi'd, as *both* to make Coalitions with the small Parts of the Peccant Acid, *and* with them to constitute little Concretions, which differing from the minute Parts of the Acid, either in Bulk, Figure, Solidity, Stifness, Motion, or in two or more of these; may be quite of another nature, and of a much innocen-

ter, than the Acid was before 'twas ſo corrected. Of this we may be furniſhed with a notable Illuſtration, by what I have elſewhere taken notice of about *Aqua Fortis* it ſelf; for as corroſive a *Menſtruum* as that is, yet by digeſting it, and perhaps, diſtilling it too, with an equal, or rather double weight of Ardent Spirit, I found the highly Acid Liquor would be ſo chang'd, as not to retain any ſenſible corroſiveneſs; and exchange its piercing Stink and great Acidity, for a not only inoffenſive, but pleaſant Scent, and a grateful and poſſitively ſweetiſh Taſt. Which brings into my mind the practice of a Preſident of the Famous *London* Colledge, who (as himſelf told me) was wont to relieve a Patient of very great Quality in Nephritick Torments, by giving her a good Doſe of an inflammable Spirit. (But this upon the by.) I have elſewhere given an account of the effects of Spirit of Wine, upon ſeveral other Acid *Menſtruums*, wherewith I mingl'd and digeſted it; by which

which it may appear, that it does not work upon them uniformly, as they are all of them Acids; but differingly enough, according to the Nature and Proportion of the Acid Corpuſcles, with which the vinous Spirits are brought to be aſſociated.

And, to ſhew that this change and contemperation of the *Menſtruum* by the Spirit of Wine, is produc'd rather by a peculiar fitneſs of the convening Corpuſcles of both, than by the contrariety or hoſtility, that the vinous Spirit, which ſome Moderns will have to be an Alcaly, has to the *Aqua Fortis* as an Acid; I ſhall add, that pure Spirit of Wine being mixt in a due proportion with *Highly rectifi'd* Spirit of Urine; which is reckon'd by Chymiſts among volatile Alcalies, and of which a drop or two is ſo fiery upon the tongue, as to be ready to burn it, or to bliſter it; this Vinous Spirit I ſay, will very much take off the cauſtick penetrancy of the urinous one, and compoſe with it a Salt much

more moderate than the Spirit was; and which being ſublim'd, or (which is better but harder to be done,) reduc'd into a Liquor, affords a mixture of no little uſe in ſome Fevers and other Diſeaſes as a *Medicine*; and with a ſmall, if skilful alteration, is of great uſe in divers Chymical Experiments as a *Menſtruum*.

N. B.

A few grains of Glaſs of Antimony made without addition, being taken inwardly, will vehemently both vomit and purge. But *tho'* Wine, notwithſtanding its copious Spirits, will, if it be well impregnated with the Corpuſcles of this Glaſs, work upwards and downwards violently enough; yet of Spirit of Vinegar, that is, of degenerated Wine, be for a competent time digeſted upon this Glaſs finely powder'd, and, when the Liquor is ſufficiently impregnated with the Particles of the Glaſs, be abſtracted from it, there will emerge from the Antimonial and Acetous Corpuſcles, a multitude of minute Concretions, of which many grains may be

be given without ordinarily provoking either Vomits or Stools: Which correction may hint, that 'tis not neceſſary that all Mortifications uſefully made by Medicines, ſhould be of Acids, ſince here we ſee, that Acids themſelves prove Correctors. And perhaps it may be by ſome ſuch kind of Combinations, that ſome Poiſons (for I do not think they all work one way, or peculiarly aſſault the heart) may be ſubdued. And I have ſometimes ſuſpected, that it may as probably be upon this account, as upon any that has been offer'd, that a man ſtung with a Scorpion may be cur'd, by cruſhing the *Animal* that ſtung him upon the hurt, as is preſcrib'd by many Phyſicians, and as an acquaintance of mine told me, he try'd upon himſelf (as another Virtuoſo did on a Souldier) with good ſucceſs: And when I conſider what a multitude and variety of figures may fit the Corpuſcles that are endowed with them, to make Coalitions very different from both

the component parts; I can ſcarce think it very improbable, that in a Patients Body there may be made, between the Corpuſcles of the Peccant matter, and thoſe of a Medicine, ſuch uſeful combinations as may produce reſulting Concretions, innocent, if not alſo beneficial.

If I had leizure, and thought it fit, I could eaſily add a great number of inſtances, about ſuch changes of Colours, Odours, Taſts, and other qualities, as are produc'd by the coalleſcence of the ſmall parts of differing Bodies, and diſcourſe of the natural conſequent of ſuch Coalitions: but having done that ſufficiently in other Papers, it will be here more proper to intimate to you, that when a particle of peccant matter comes to be aſſociated with one of a Specifick Medicine, that combination may alter it for the better, not only by changing its bigneſs and figure, but alſo by encreaſing, or leſſening its ſtifneſs, and its ſolidity, and giving a new modification to its motion; as

a little

a little attention to the natural consequences of the Coalitions of Bodies, may easily induce you to grant.

And I shall add (as it were *ex abundanti*) that the small Concretions, made by the union of some Morbifick with some Medicinal Corpuscles, may not only become innocent, but sometimes also beneficial, which may be illustrated by what happens by a further preparation, to common sublimate; for though this be a substance so highly corrosive and mischievous, that a few grains of it may suffice to kill a man; yet by making a Coalescence of it with less than its weight of Quicksilver, which is a Body insipid as well as inodorous, the Corrosive sublimate will be so alter'd and tam'd, as to be turn'd into what Chymists call, because 'tis freed from sharpness, *Mercurius Dulcis*; which if it be skilfully prepar'd and given, though in the quantity of many grains, is not only for the most part an innocent thing, but a very good Medicine, and that perhaps in more

cases

cases than Physicians generally know it to be good in.

The newly mention'd account may hint to us a probable Argument, to show, that, notwithstanding all the digestions and changes that a Specifick Medicine may receive in its way, it may prove a salutary one, when it arrives at the Part it should relieve. For, tho' the Corpuscles of the Medicine should in their way to the Part affected be considerably chang'd, yet 'tis possible that these alter'd Corpuscles may, by that very alteration, be made Medicinal; since they may be qualifi'd, (even by those changes) when they arrive at the Part affected, to combine themselves strictly with some Corpuscles, whether Morbifick or others, that they find already there; and may with them compose new Concretions that may acquire a new Nature very friendly to the Patient. Something Analogical to this we may observe in *Asparagus*, which being eaten, afford store of Particles, that mixing with those

those they meet with in the Kidneys or the Bladder, produce a new Odour, very differing, both from that of meer Urine, and from that of the Plant it self. And so if good Turpentine be taken at the Mouth, 'tis known that arriving at the Kidneys and Bladder, it will mingle its minute Parts with those it meets with there; whence will emerge Corpuscles, that will impregnate the Urine with a very differing Odour, from that which belongs to either of the Liquors, since it oftentimes has a fragrancy somewhat like the smell of Violets.

Before I conclude this Paper, 'tis like it will be thought fit that I should take notice of a difficulty, that I know may be objected, if not against the past discourse, yet against the sufficiency of it to answer the design I propose to my self in writing it. For it may be said, that, whereas my Arguments and Explications suppose all along, that the *Specifick Remedies* are taken in at the Mouth; 'tis known

that

that divers of the Asserters of *Specifick*s reckon among them, some that are not by swallowing taken into the Body, but only outwardly apply'd, or perhaps do but barely touch it; as may be observ'd in Amulets, Rings, &c. On occasion of this considerable difficulty, I have, if I misremember not, represented divers things in another Tract. But however it may be fit in this place, briefly to say somewhat, by way of Answer to it. We may then take notice, that the confidence with which many Physicians reject, and some of them deride, *External Specifick*s, if I may so call them, seems to be built upon these two things: The *One*, that the *Medicine* cannot in part, as 'tis certain it do's not in the Mass, get into the Body; and the *other*, that, in case a *Specifick* should have some part of it subtil enough to gain admittance, that Part must be too small and inconsiderable, to be able to produce in the Body any such notable change, as is necessary to the expulsion of Peccant Humours,

and

and the conquering of a Diſeaſe.

As to the former of theſe Grounds, I largely enough ſhow in another Paper, * that a Mans Skin, tho' it ſeems an entire continued Body, is really perforated with a great multitude, and perhaps a not inconſiderable variety, of little Cutlets and Inlets, which we call Pores; many of which are viſible, even in the Skins of dead Animals, by good Microſcopes; and others are manifeſtly inferr'd, from the numerous little drops that cover all the Skin, at the firſt Eruption of Sweat. And that theſe little Perforations may be Inlets to the finer Particles of Externally apply'd Medicines, may appear probable by ſeveral *Phænomena*, ſuch as theſe. That Water will ſoak through the Pores of a fine Bladder, and diſſolve Salt of Tartar, or even white Sugar, contain'd in it: That I have prepar'd a certain Liquor, whoſe Fumes, tho' not agitated by Heat, would quickly penetrate

* The Paper here mean't is the Eſſay of the Poroſity of bodys.

trate divers Membrans of dead Animals, and manifestly work on Metalline Bodies wrapt up in them: That 'tis a known thing, that Quicksilver outwardly apply'd in Ointments, Girdles, &c. will get in at the Pores of the Skin, and invade the Internal Parts of the Body, and stay there longer, and perhaps too operate more, than the Physician desired. And when once the *Effluvia* of these Externally apply'd Remedies have gain'd admittance at the Pores of the Skin, 'tis not very difficult to conceive, how they may proceed further. For underneath the *Cuticula* or Scarf Skin, and close to it, there are so great a multitude of Capillary Vessels, that you can scarce thrust a small Pin into any Part, but that the point of it will meet and tear some of these little Vessels; as will appear by a small drop of Blood, that will be made to issue out at the new made hole, as small as it is. To which instance, if it were necessary, I could add divers others of the multitude and

spreading

spreading of the Capillary Vessels, that lie close beneath the Skin, and for the most part carry Blood, tho' some of them may contain other Juices, and discharge their recrements by Sweat, or insensible Transpiration, at the Cutaneous Outlets. Now these Capillary Vessels, as small as they are, having their Cavities immediately continu'd with those of less slender ones, and by their intervention with those of the greater, which are branches of the greatest of all; the Corpuscles of the Medicine, once got into the Capillary Vessels, may have an easy passage, by means of the Liquors they contain, into these greater branches of the principal Veins, and so, by vertue of the Circulation, come to be quickly mingled with the Mass of Blood, and by it may be easily convey'd to all the Parts of the Body: As it has been divers times observ'd,

* that Arsenical Amulets worn upon the Breast, did,

*See this at large proved by the Learned *Diemerbroeck de Peste, lib. 2. cap. 11. in Annotat.*

tho'

tho' they ſcarce touch'd the Skin, produce threatning Diſtempers in the Heart, and ſeveral miſchievous Symptoms in other Parts of the Body. And I find it recorded in good Authors, that *Cantharides*, even when but held in the Hand, nay ſometimes, tho' but carried in ones Pocket, tranſmitted their hurtful *Effluvia* as far as the Bladder, and excited great Pain and other bad Symptoms there.

As for the ſecond Ground on which Specifick Remedies are rejected, that, tho' they could get entrance into the Body, yet it would be but by their *Effluvia*; and theſe are no way likely to prove efficacious enough, to have any conſiderable effect upon an Internal Diſeaſe: To remove this difficulty, I ſhall briefly obſerve;

1. That the number of the Corpuſcles, that may paſs from the outward Medicine into the Body, may be far greater, and therefore make them more conſiderable, than moſt men are apt to think. This may be render'd

rendred probable, by the great multitudes of Odorous, and consequently Sensible, Expirations, that are continually emitted for a very long time together, by Ambergreece, Musk, Civet, and much more by skilfully made Compositions of them. And that also subtil *Effluvia*, even without the assistance of Heat, may quickly penetrate Membrans so plentifully, as to act on stable Bodies contain'd in them, I have intimated a little above, and have experimentally made appear to divers curious men.

2. That the Corpuscles of a Medicine may retain their Nature, and not loose their power of operating, notwithstanding their being, as it were, strain'd through the Skin; as may be argued from the Mercury, that we not long since mention'd to have been found in the form of Quick-silver, in the Bodies of some men, that had been too frequently anonited with Mercury, mix'd up with unctuous things into an Ointment; By which

the Patient may be as long and violently Salivated, as if he had ſwallow'd a *Bolus* or Pills with Mercury.

And ſo I have divers times obſerv'd, as I doubt not but others have oftner done, that a little *Opium*, mix'd up with other Ingredients for Plaiſters, did by outward application take off the Acute Pains of inward Parts, tho' moderately remote from the Plaiſter.

3. And that the Corpuſcles of a Specifick may on divers occaſions act more powerfully, by getting in at the Pores of the Skin, than if the Remedy that afforded them had been taken in at the Mouth: Becauſe if it had, the Particles might be divided, or perhaps on other accounts, (as by dilution, compoſition with thoſe of the Chyle, *&c.*) much alter'd, by the Ferment or the *Menſtruum* of the Stomach, by their Filtration through the Guts, and their long and winding paſſage through them and the Lymphiducts, before they arrive at the Heart, to be mingled with the Blood; whereas

whereas the Corpuſcles of the External Specifick, preſently after they are paſt the Skin, get into the Capillary Veſſels of the Blood that lie under it, and by their means are ſpeedily mix'd with the Circulating Maſs of that Liquor, and ſo eſcape the formerly mention'd alterations, that other Medicines are ſubject to before they are admitted into the Maſs of Blood. By which it may appear, that thoſe Phyſicians are much miſtaken, that think a Topical Medicine can at beſt relieve but the Part 'tis apply'd to, becauſe its Corpuſcles cannot be ſuppos'd to reach beyond that Part of the Body, that lies very near the Medicine they iſſue from. But, tho' this reaſoning might be excuſable enough, if not allowable, before the Circulation of the Blood was diſcover'd, yet, now 'tis known how great an intercourſe that Liquor maintains between diſtant Parts of the Body, the Argument is not ſeaſonable.

And on this occaſion, I ſhall add an advertiſement, that I remember

not I have met with in Authors; which is, that Body's outwardly apply'd may prove Specificks for some Diseases or Distempers, that one would not think them very good for, by the bare knowledge of their effects when taken in at the mouth. Thus Camphire swallow'd, is, in the dose of a very few grains, a great heater of the Blood, and is in some Country's, perhaps not altogether without reason, extoll'd by Physicians in some kinds of ill condition'd Fevers: but outwardly it is apply'd to take off those Redneſſes of the Face, that are thought to proceed from Heat of Blood; and 'tis us'd in Ointments against Burns. So Spirit of Wine, that is so hot when drunk, is a very good remedy to take out the fire, as they speak, in Burns, especially if the Part be early moistend with it. Bread, that is counted so moderate and well temper'd and Aliment, when eaten, if it be chew'd and outwardly apply'd, hath considerable vertues in several external affections. And I know an

ancient

ancient and experienc'd Phyſician, that uſes to purge. Children, that will not eaſily be brought to ſwallow Medicines, by applying ſomething to their Navels, that do's not offend them by Colour, Smell, or Griping: And this himſelf more than once confeſs'd to me, is but an ordinary Aliment, that moſt men, and I among others, have frequently taken unprepar'd, which he freely nam'd to me, but which I have not yet had opportunity to make Tryal of.

That what we have been ſaying about the poſſible efficacy of external Specificks, may appear the leſs improbable, 'twill be fit to take notice of ſome obſerv ations, that comport very well with our Doctrine. And though the Inſtances to be brought will not be all of them of remedies that deſerve the name of Specificks; yet, beſides that ſome of them may perhaps have a Title to it, they will all conduce to ſhow, that Simples or Druggs exter nally apply'd, may have conſiderable operations againſt Internal Diſtempers of the B ody. I 3 'Twere

'Twere easy for me to mention a great many external Specificks out of Physicians Books. But I purposely forbear it, because to speak freely, I suspect that most of those Remedies, though greatly extoll'd, have been but little examin'd, by the deliverers of them. And it may suffice for my present purpose to alledge a few Instances that have been recommended to me, either by my own experience, or that of some Friends. Only there is one observation that is so solemnly and expresly deliver'd by *Galen*, upon his own knowledge, & so well back'd, by other eminent Physicians, that I shall let it lead the way. This memorable story, that is related by *Galen*, is of a *Piony* Root, which having been worn as an *Apensum* about a Boy, that had been Epileptick for divers months, kept him from his Disease as long as he wore it about him; but when by an accident he ceas'd to do so, the Disease invaded him again, and yet by applying the Remedy again, he was the second

cond time freed from it, which *Galen* obſerving, did for curioſity make the Root be laid aſide, but finding the *Fits* to return, he imploy'd it again with the former ſucceſs.

I liv'd in the ſame houſe with a learned and Judicious Perſon, that was ſubject to be Paralytick, who being frequently tortur'd by violent Cramps, was ordinarily and ſpeedily reliev'd by wearing or handling the Tooth of a true Hippopotamus or River-Horſe. And he affirm'd to me, that upon leaving off, the uſe of it, for any conſiderable time, either out of curioſity, or to accommodate ſome Friend, the Fits would return with violence upon him. I remember alſo, that having my ſelf been for ſome years frequently ſubject to Cramps, and complaining of it to a Phyſician that had been a Traveller into cold Countries, he told me, that he had brought home with him ſome Rings made of the true Elks hoof, from a place where theſe *Animals* are uſually imploy'd, and that with theſe he had

cur'd many of the Cramp, and therewithal presented me one to make tryal of, which I the more willingly accepted, because he confess'd to me, that divers Rings that were sold for such as his, and look'd like them, were either counterfeit or of no efficacy. And tho' I did not find that if the Cramp seiz'd me in the calf of the Leg, the Ring would much relieve me, yet when the Fits were but moderate, and in other Parts, especially the hands, I found my self eas'd, so often, and so soon, that I was at first surpriz'd at it, and us'd to have the remedy laid every night by my Bed-side, to have it ready when occasion should require. And that which I thought some what strange, was, that several times, when the Cramp seiz'd my Foot or my Toes, the Pain was quickly remov'd, tho' I apply'd the Ring but to my Finger: which made me much regret the loss of it.

An eminent Physician speaking to me one day of a Patient of his, that was subject to a nocturnal *Incontinentia*

nentia Urinæ, that was very inconvenient as well as shameful; I told him of an Empyrical Remedy, which is mention'd in another Paper, whose success I neither would warrant, nor did altogether dispair of, and which at least seem'd safe, tho' it should not prove effectual. This was only a simple substance, (belonging to the Animal Kingdom) that was to be worn in a fine Sarsanet Bag between the Shift and the Skin, for which a good while after the Physician gave me great thanks, telling me, that he was surpriz'd at the effect of it, and that he observ'd that when the Patient had worn it so long, that probably the vertue began to decay, that is in my sense, that the *Effluvia* were almost spent, the Patient found need to take a fresh Remedy, to continue the benefit she had found by the former.

I do not affirm or expect, that the three fornam'd *Appensa*, nor the other Remedy's I am about to mention, will always succeed. And I think

think, one may assign some not improbable reasons of the want of uniformity in their effects. But for my present argument, it suffices that they do *sometimes* succeed, since that is enough to show it possible, that outward Medicines may operate upon inward Distempers.

Having one day given a visit to one of the skilfullest and candidest Physicians of the Famous Colledge of *London*, I observ'd in his Chamber, a fine new fashion'd Clock; and having taken notice of it to him, as a thing I had not seen there before; he desir'd me not to think, he was rich and vain enough to purchase, so dear a rarity; but that it belong'd to a Courtier whom he nam'd to me, of whose Daughter he told me this story. This young Lady had a great Tumor in her Neck or Throat, which being apprehended to be of a Scrophulous Nature, made her Father fear it would oblige him to increase her Portion more than his Estate could conveniently bear. Wherefore at length

he

he addreſs'd himſelf to my Relator, who judging the caſe to be difficult, and being unwilling to torment the Lady with a long courſe of Phyſick, told the Courteour, that if he could animate her to ſuffer a Remedy he would propoſe, and would aſſiſt him to procure it, he hop'd to remove this Tumour without weakning her, or putting her to pain. Soon after, all Parties being agreed, and the deſired conveniency procur'd, the Patient was brought into a Room, where there was yet in Bed the Body of a man that had dy'd of a lingring Diſeaſe. This mans Hand the Doctor took, and laid it upon his Patients Tumour, keeping it there till ſhe either complain'd or confeſs'd that ſhe felt the coldneſs of it penetrate to the innermoſt Parts of her Tumour. This application was afterwards repeated more than once, whilſt the Body continued without ſmelling: And by this courſe the Tumour was diſpell'd, and the Patient ſo reliev'd, that her Father, by way of gratitude, knowing

knowing how much the Physician was a lover of curiosities, made him a present of that Clock.

The Learned Doctor ascrib'd this odd Remedy to *Helmont*, who is indeed to be thank'd for having mention'd and recommended a Medicine, that was unlikely to be good, besides that it was not in use. But the knowledge of it seems to me to have been for the main very much ancienter than our Age: since there is mention made of one very like it by so Ancient an Author as *Pliny*; tho' since his time till *Helmonts* it hath been generally forgotten or disbeliev'd, save that one Physician (*Franciscus Ulmus*) who, tho' no ill Observer, has not had the Fortune to be Famous, takes notice of a case very like that of our Courtiers Daughter, affirming, that by that one Remedy, after others had been fruitlesly imploy'd, he knew a Noble Virgin to have been perfectly cur'd.

I was one Summer, to my great surprize obnoxious to frequent Bleedings

ings at the Nose; for which I sometimes us'd one Remedy, and sometimes another, for the most part with good, but not still with quick success. But falling once unexpectedly into a Fit, whose violence somewhat alarm'd me, I resolv'd to try an unusual Remedy: And having easily obtain'd of my Sister, in whose house this Accident happen'd, some true Moss of a dead Mans Scull, which had been sent her, by a great Person, for a present out of *Ireland*, in which Country, I found it less rare and more esteem'd than elsewhere: I was going to imploy it after the usual manner, which is to put it up into the Patients Nostrils, but before I did it, I had the curiosity to try, notwithstanding the briskness of my Hæmorrhagy, whether the Medicine would produce its effect by being only held in my Hand, and therefore covering a piece of the Moss with my Fist, that the warmth might a little actuate the Medicine, I found, to the wonder of the by-standers,

ders, that the Blood ſpeedily ſtopp'd; nor thanks be to God have I been troubled with a Hæmorrhagy for ſome years from that very time. But this is far leſs ſtrange than what was affirm'd to have happen'd to one of the Eminenteſt Members of the Royal Society. This Learned Gentleman, who was of a very Sanguine Complexion, found himſelf much affected by the uſe of the Moſs of a human Scull, [pieces of which I have ſeen ſticking to the Roots of the Vegetable, when it was genuine] which had ſo ſtrange an operation upon him, that ſometimes when he was let Blood, if for curioſities ſake he held a quantity of this Moſs in his Hand, the Efflux of the Blood would ceaſe, till he laid it by again; which was not only ſolemnly averr'd to me by himſelf, but confirm'd to me by his Ingenious Phyſician, with both whom I had a particular Acquaintance; which otherwiſe I ſhould have thought ſcarce credible, unleſs imagination, a faculty very ſtrong in that Gentleman,

contributed

contributed to the ſtrange effect of the Remedy.

The hitherto mention'd External Specificks are afforded by Vegetables and Animals, which being Bodies of a ſlighter Texture, may be ſuppos'd to have their Parts more Effluviable: And therefore I ſhall now add two or three examples afforded by the Mineral Kingdom, which conſiſting of Bodies that never were living, and which are for the moſt part very cloſe and compact, are generally thought to have their Parts indiſpos'd to emit *Effluvia*.

I knew a Perſon of great Learning, and by Profeſſion a Phyſician, who enjoy'd a Health good enough, ſave that uſually after a few hours ſleep, he wak'd in the Night with great Terrors, follow'd for a long time with ſuch violent Palpitations of the Heart, as were very troubleſom, and ſometimes frightful to him. To remove this Diſtemper, he try'd all that his Art ſuggeſted to him, but without ſucceſs. Whereupon he complain'd

plain'd of it to several of his Acquaintance; and mentioning it one day among a Company of Merchants, whereof some frequented very remote Country's; one of them told him, he would easily relieve him, by a Remedy that had been found efficacious both upon himself and others. This he told him was, to take divers flat and smooth Cornelian Stones, such as they bring from the *East-Indies*, to cut Rings out of, and to sow eight or ten of them to a piece of Scarlet or Flannel, to be hung about his Neck, so as that the Stones may immediately touch the Skin over against the Heart, and the Mouth of the Stomach. This Remedy the Physician procur'd, and in no long time, found the great benefit of it, insomuch that he thought he might now securely leave off the use of these Stones, which he did once or twice out of curiosity, as well as for his ease, but finding the Distemper to return each time, within very few Weeks after he had laid aside his Remedy, he re-

folv'd

ſolv'd to keep it always on, as he had long ſucceſsfully done, when he told me the ſtory. And to convince me, preſented me with ſome of the Cornelians, that he had, for fear of wanting them, procur'd in greater number than he needed at once. But ſince I have not yet had occaſion to make tryal of them, I ſhall not conclude that the Remedy will always ſucceed, but only (which is enough for my preſent purpoſe) that 'tis at leaſt poſſible that ſuch an External Remedy may be very effectual.

I afterwards thought (which I here note, to add to the probability of what I have been relating) that poſſibly thoſe that firſt made uſe of the foremention'd Remedy, may have had a hint from what *Galen* ſaith of the Jaſper: Which Stone we obſerve to be various in point of Colour, and I have ſeen in the green mixtures of Red almoſt as deep as that of Cornelians. Of this Stone *Galen* relates that ſome made Rings, in which were graven a Dragon having Beams

issuing from him, and commended it as very friendly to the Stomach, being apply'd to the Mouth of it. And tho' he omitted (and found he safely might do it) the Sculpture, he yet approves the Stones upon his own frequent experience, applying them almost as our Merchant did; *Sane hujus* (says he) *ego quo lapidis abunde feci periculum Torquem enim ex hujusmodi lapillis confectum collo suspendi ita ut lapides os ventriculi contingerent apparebant, autem nihilominus prodesse etiamsi sculpturam non haberent*, &c.

Galen de Simp. Med. facultatib. Lib. uono. Tit. de Lapid.

I have lately mention'd the efficacy of a Cramp Ring upon some Parts of the *Genus Nervosum.* But some will perhaps think it more considerable, if a Stone Ring worn on the Finger shall be able to work upon the Mass of Blood, and particularly that deprav'd Portion of it, that Nature relegates to such distant Parts as the Hemorrhoidal Veins. And yet the experienc'd *Monardes*, having described

ſcrib'd the Blood-Stone that is brought from New-*Spain*, and repreſented it as a Jaſper, not only commends it againſt Hemorrhages, being applyed to the Bleeding Part, but adds the following words, which declare that he ſpeaks upon experience, *Vidimus nonnullos Hæmorrhoidum Fluxu afflictos Remedium ſenſiſſe, Annulos ex hoc Lapide confectos in Digito continue geſtando: nec non & Menſtruum Fluxum ſiſti.*

Nic. Monard *Simpl. Med. Hiſt. cap.* 36. *p.* 329.

I know you will expect here, that I ſhould not on this occaſion pretermit the *Lapis Nephriticus*; of which ſort of Stones, tho' many have been found ineffectual againſt the Diſeaſe that gives them their name, and tho' it be ſcarce poſſible to chooſe thoſe few that are good, without having particularly and actually try'd them; *yet* that ſome of them are of great virtue, we have the Teſtimony of the inquiſitive and judicious *Boetius*, and that other Learned Writer about Gems *Johannes de Laet*, whoſe Praiſes

are confirm'd by the Historical Testimonies of *Monardes* and others. But none that I have met speaks more home to our purpose than a considerable Merchant of *Leipsick*, whose rare Observations are recorded by a man of very great reading the Learned * *Untzerus*, to whom I refer you, contenting my self to mention in this place two of the ten Remarks he sets down, the first, that the Merchant affirm'd to our Author, that by wearing this Stone for some days, the calculous matter was so powerfully proscrib'd, that a multitude of small grains of Sand were expell'd, even at the corners of his Eyes. The like effect, to which he often observ'd of that Remedy in divers other Persons. The second, that by wearing the same Stone, his Wife who was troubled with a great Catarrh found it considerably Cathartick, insomuch that the first day she was thereby purg'd fourteen or fifteen times, the next nine or ten times, and afterwards had

* Untzer. *de Nephrit. Lib.* 1. *cap.* 24.

had her Body kept very open. And he adds, that he found also this Stone to operate like a Purge, tho' not so strongly upon himself.

But enough, if not more than enough, of the vertues of *Periapta* and *Appensa* especially, since more instances of them may be met with in some other Papers: And even without them, or at least with them, those particulars I come from mentioning, may furnish a sufficient Answer to the Objection that has occasion'd them.

The Conclusion.

And now, Sir, you have what the consideration of the Nature of the things I treat of suggested to me, about the *Principal* ways, by which I conceive Specifick Medicines may cure Diseases, or at least much lessen them. I said the *Principal ways*, because I am far from denying, that there may be many *others*, that must

not here be mention'd, left I ſhould too much tranſgreſs the limits that become an Epiſtle; eſpecially, this being already far more prolix than I at firſt intended; though I purpoſely omitted the Authorities and Arguments of divers Phyſicians and Chymiſts, that maintain that there are Specifick Medicines, becauſe they proceed upon Principles, (ſuch as ſubſtantial Forms, real Qualities, *Ideas*, or *Chaoſes* and the like,) which I could not fairly employ, becauſe I do not admit them. But though I forbore to lengthen my diſcourſe, by improper, and I hope needleſs Tranſcriptions out of others; yet 'tis long enough to prompt me, now at the cloſe of it to remind you of two or three things that I declar'd at the beginning.

As *Firſt*, that I did not pretend that a Specifick Medicine, or Nature by a Specifick, does commonly effect the cure by *one* of the particular ways that I propos'd, excluſively to the reſt; ſince I rather think that oftentimes

times two, and sometimes more, concur to the effect. *Secondly*, that I propos'd to my self, to explicate the ways of working of Specifick Remedies, only in general. And *Thirdly*, that I did not assert, that the ways I pitch'd upon were the true and genuine ones, by which the Medicine *does* act, but only propounded them, as ways by which it *may* act: So that without being Dogmatical, I offer you my Explications, but as *possible*, and perhaps not *improbable*; and that may suffice for the occasion and scope of this Letter; in which I presume, you remember I aim'd but at shewing you, that the operations of Specifick Medicines *are not irreconcileable* to the Principles of the Corpuscular Philosophy: Which I hope you will without reluctancy grant, if, by my good Fortune, the difficulties that made you hesitate, seem to you to be lessen'd by so barren an intellect as mine, discoursing of an abstruce subject, which belongs to a profession that I am not of. Upon which ac-

count it may be justly presum'd, that you, who have so much more sagacity, and are so much more concern'd than I in the subject I have been treating of; and who being a profess'd Physician, have much more opportunity to discover the various courses that Nature does or may take in curing Diseases; will be able to give your self far more satisfaction, than you could hope to receive from me, who have therefore propos'd to you my conjectures very diffidently, tho' I am very positive in asserting my self to be

SIR,

Your most, &c.

ROBERT BOYLE.

A N

AN INVITATION To the Use of Simple Medicines.

To the very Learned Dr. *F.*

§ I.

SIR,

SInce *Specifick Medicines*, to deserve that name, must be very Efficacious; and yet are for the most part either simple or very little compounded, what has been said about them in the foregoing Tract concerning Specificks may afford me a not improper rise to invite you, and thereby others of your Profession, on whom

whom your Authority and Example may justly have much influence, to seek after and Imploy, more than they are wont to do, such Remedies as are either simple, or, when there happens a necessity to compound, are made up of no more Ingredients than are absolutely requisite to answer the Indications, and the Physicians Scope.

This sort of simple, or but lightly Compounded, Remedies, I am induc'd to prefer before those pompous compositions, wherein men seem to have hop'd to surmount diseases by the multitude of the Ingredients, upon the following Reasons. In all which I desire the advantages ascrib'd to simple Medicines, above others may be understood, not in an absolute and indefinite sense, but, as they speak *cæteris paribus*, which I here give you notice of once for all

And the first advantage that I shall mention, is, That it is much less difficult, to foresee the operation of a simple,

ſimple, than of a very compounded Medicine. So that Phyſicians may proceed more ſecurely, in imploying the former than the latter ſort of Remedies. And indeed, if I do not greatly miſtake, we often preſume too much of our own Abilities when we believe that we know before hand, what the Qualities and Effects of a Mixture of many Ingredients of differing Natures, will be: Since many Bodies, by Compoſition, and the change of Texture conſequent thereupon, do receive great and unexpected Alterations in their Qualities. Several manifeſt Inſtances of this Truth may be met with in our Hiſtory of Colours; In divers of whoſe Experiments, the Colour produc'd upon the Mixture of Bodies, is quite different from that of any of the Ingredients. As, when a blew Solution of Copper made in Spirit of Urine, does with Syrup of Violets, which is alſo blew, produce a fair Green. And even ſince I began to write this Section, a Tryal purpoſely

posely made has afforded me a new Instance of the same import.

For having put together some Tincture of Iron, made with good Spirit of Vinegar, and a Volatile Tincture of Sulphur, (which I elsewhere show how to make) from a Confusion of these two very red Liquors, there emerg'd in a trice, a very dark and almost Inky Mixture, that retain'd nothing at all of Redness.

The like notable changes I have several times produc'd by Mixtures, in divers other Qualities of Bodies than their Colours, as in their Odours, Tasts, &c. And why such Alterations may not be also effected by Composition, in some of the Medicinal Qualities of Bodies, I do not yet see. Quick-silver it self inwardly taken, does usually cause, either no manifest evacuation, or one that is made at the mouth: But if it be dissolv'd in Spirit of Niter, and Precipitated with Sea-Salt, this white Precipitate being edulcorated, if it

be

be warily given in a juſt Doſe, doth (as far as I can yet learn) ſeldom fail of working, and yet ſeldomer work by Salivation, but by Siege. On the other ſide Glaſs of Antimony (made *per ſe*) whereof a very few Grains given in ſubſtance, are wont to work violently upwards and downwards, being diſſolved in Spirit of Vinegar, (which is not eaſily and quickly done) will not uſually either Vomit or Purge, tho the *Menſtruum* be drawn from it, and tho it be given in a larger Doſe, than that of the uncompounded Glaſs.

And *tho* if Crude Antimony be flux'd with Niter and Tartar, as in the ordinary way of making *Crocus Metallorum*, there is produc'd, as is vulgarly known, a Medicine ſo Emetick and Cathartick, that an Ounce or leſs of the Wine wherein it has been infus'd, without ſenſibly looſing its weight, is wont to work ſtrongly enough both upwards and downwards: *Yet* I have known ſome that would without ſcruple, take

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ſeveral Grains of Crude Antimony in ſubſtance, and one particularly that continued the uſe of it long, without being vomited or purg'd by it. And Tryals purpoſely made have inform'd me, that if, inſtead of Salt-Peter and Tartar, Antimony be prepar'd with well dry'd Sea-Salt, and a little Salt of Tartar, tho both theſe amount not to above half the weight of the Niter and Tartar vulgarly us'd, yet the Antimony well flux'd with theſe (for about an hour) is thereby ſo alter'd and corrected, that it affords an uſeful Medicine, of which one may give from 12 or 15 Grains to half a Dram, or more in ſubſtance, without ordinarily working, either by Vomit or Siege, but uſually by Sweat, and ſometimes by Urine. Whence we may gather, that Antimony may be either made a more dangerous, or a more friendly Medicine, than of it ſelf it is, according to the Ingredients 'tis aſſociated with, tho theſe be in themſelves Innocent, and perhaps of kin to one another.

another. And even Chymists, as well as other prescribers of Remedies, may be found, tho less frequently, to add to a Simple, such things as rather deprave, than improve it. As one of their great Patrons (a happy Practitioner) complains, that Flower of Sulphur, by being sublim'd, (as by many it is) from Calcin'd Vitriol, and one or two other things, under pretence of purifying and subtillizing it, does really acquire a hurtful Corrosiveness. And if I had here the Leizure, Instances enough might be brought to show, that Chymists sometimes mistakingly produce by their additions to a Medicine, other Qualities, if not also worse, than they design'd or expected.

§ II.

§ II.

ANother Advantage of Simpler Medicines, is, that *cæteris paribus*, they are more safe than compounded ones, especially if the Patients be valetudinary persons. 'Tis too much the custom, both of many Herbarists, and several other Writers on the *Materia Medica*, to give us rather *Encomiums* than impartial Accounts of the Simples they treat of; enumerating and magnifying all the vertues they have, and sometimes more than they have, without taking notice of their ill Qualities, upon whose account nevertheless they may be inconvenient, if not hurtful and dangerous, to some Constitutions, and in divers Cases. We know that divers Perfumes, as Musk and Amber, tho very grateful and refreshing to most Mens Spirits, are yet very hurtful to many Women, and especially to those that

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are Hysterical. And I have known the smell of Musk very much disaffect an eminent Person, though otherwise of a robust Constitution. I have also known several Persons, not all of them of the same Sex, very much offended by the smell of Roses, which yet is very moderate, as well as to most Persons, whether Men or Women, very grateful. I know a very great Person to whom Honey, whether inwardly taken, or outwardly apply'd, is almost as hurtful as Poyson, having several times produc'd strange and frighttul Symptoms, even when the Patient knew not that any Honey had been imploy'd, and consequently could not be thus oddly distemper'd by the force of Imagination. I think I have elsewhere taken notice of the harm, that both I and others, subject to Diseases of the Eyes, have receiv'd, even by the moderate use of Parsley.

On this occasion I shall add what occurr'd to me long after I had dictated what I said of Parsley, that

Worm-wood, tho for many uſes, an excellent Plant, has been found by many ſo apt to diſaffect the head, and ſo unfriendly to the Eyes, that I have for ſome years forborn it my ſelf for fear of the head-ach, and fore-warn'd others of it that are ſubject to weak Eyes. But I know a very Learned Man, whoſe Elegant Pen has made him deſervedly be taken notice of by many, who, tho he have naturally very good Eyes, found upon an Obſtinate Tryal, that his Curioſity ſeduced him to make of the plentiful uſe of Worm-wood-Wine and Beer, that within leſs than three Weeks, his ſight was by degrees brought to be ſo weak, that he could not read a Gazet without Spectacles; but by totally leaving off Worm-wood, he quickly recover'd the vigour of his ſight, without the uſe of any of the helps that his profeſſion, which is Phyſick, would have plentifully ſuggeſted to him. this Relation I had from himſelf ſoon after the thing happen'd, on occaſion

occasion of what I told him about Parsley, &c.

And to speak more generally, I doubt not, but if Men were not so prepossess'd with the Praises that Authors give to Simples, that they overlook the Inconveniencies they may on divers occasions produce, we should find in many Medicines bad Qualities, that are not yet taken notice of. And I have more than once hit, but too well, in the Prognosticks I made of the Hurt, some Patients would receive by the use of applauded Medicines, prescribe them, even by considerable and Learn'd Men, when upon their Authority my warnings were neglected, and the use of the Medicines unhappily persisted in. I remember I once saw in the hands of a learned and curious Traveller into the Eastern Parts of the World, an Arabick Manuscript about the *Materia Medica*, which made me regret the loss of the most part of the little skill I once had in

that Language. For besides that it was written in a delicate hand, and the Letters in fit Places, curiously adorn'd with Gold and Azure, the Method seem'd to be more accurate than any thing I had seen on that Subject. And that which pleas'd me not a little, was, that the Author had been so wary, that after the columns wherein he taught, besides many other things, the Vertues, Doses, &c. of every Drug he treated of, he had a distinct column for the bad Qualities of it, and the constitutions and Diseases wherein the use of it may be dangerous or inconvenient. I think it therefore not unreasonable to suspect, that, where a great many Ingredients are blended into one Medicine, one or other of them may have other operations, besides that design'd by the Physician; it may awaken some sleeping Ferment, and, if not produce a new Distemper, may excite and actuate some other hostile matter, that lay quiet in the Body before,

fore, and perhaps would have been little by little ſubdu'd by nature, if it had not been unſeaſonably rous'd and aſſiſted by ſome Ingredient, that perhaps was needleſly put into the Medicine. I have had ſo many unwelcome Proofs of this in my ſelf, that it engages me to be the more careful to caution others againſt the like Inconvenience.

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§ III

ANother benefit accrewing from the uſe of Simpler Medecines, is, that thereby the Patient may, without burdening his Stomach, or nauſeating the Remedy, take a larger Doſe of the Medicine, or of that Ingredient of it wherein the vertue chiefly reſides. For, whereas Phyſicians are oblig'd to ſtint themſelves in the Doſe of the Medicine, for fear of diſguſting the Patient, or oppreſſing his Stomach; when there are many things heap'd together in a

moderate Dose of one compounded Medicine, these Ingredients that are either superfluous, or at least are less efficacious, must necessarily take up a considerable part of that determinate Dose, and consequently leave much the less of the more appropriated or useful Ingredients.

To say, that all the Ingredients that are thrust into a great composition, are proper and conduce unto the same purpose, I doubt is not always true. And however is not a sufficient Answer, since it does not avoid the Inconvenience I have been objecting.

If a Baker, being to make the best Bread he can, especially for a Person of a weak Stomach, should to Wheaten Flower add the Meal of Rye, of Barley, and of Oats; tho' all these Ingredients be good and nourishing, and each of them is by many us'd to make Bread, yet none will take him for a skilful Baker, and few would prefer this compounded Bread, to that more simple one made

made of Wheat alone. And so to make good Gun-Powder a skilful man would not to Salt-Peter, Brimstone, and Charcole add Wax, Rosin, and Camphire, though these be very inflammable Substances as well as Sulphur. And thus if one would make an *Aqua Vitæ*, whereof but one small cup were to be given for the quick recovery of fainting Persons, he would not with Spirit of Wine, or good Brandy, mix Mead or Cyder, and strong Bear or Ale, tho' each of these be it self a Spirituous Liquor.

Gum Arabick (whereof I prefer that which is transparent and colourless) is prescrib'd in several compositions, as a Drug proper to mitigate the sharpness of Urine. But by the quantity of the other Ingredients that 'tis mix'd and clog'd with, no more than a small proportion of it usually comes to be given in one Dose. But when I have had the Curiosity, leaving out all the other things, to give about a dram, or perhaps more

of it at one time, reduc'd by long Pounding (for the best is very tough) to fine Powder, in a large draught of small Ale or Beer, or some other convenient Vehicle, I found very considerable Effects of it. And I remember that a Gentleman of great note, coming to bid me farewel, because of a long and troublesome Journey, he was taking to Mineral Waters, which he intended to drink for many weeks, to ease him of a very painful sharpness of Urine; I that knew it was not venereal nor from the Stone of the Bladder (for when those Causes of the Strangury, the Medicine is not near so powerful) I desir'd him, before he went to make use of this Powder, once, or (if there should be need) twice a day. Which when he had done, it so reliev'd him that he thought himself quite cur'd, and forbore his intended Journey not only that Year, but the next. For the Chin-cough, as they call it in Children, whose odd Symptoms do usually fright the Parents and Attendants,

dants, and oftentimes fruſtrate the Endeavours of Phyſicians, skilful in curing other Coughs, I have not known any magiſterial compoſition ſo effectual, as the ſimple Juice of Pulegium (by many call'd Penny-royal) ſweetn'd a little with Sugar-Candy, and given long enough from time to time, in the quantity of a Childs Spoonful. (This Plant may be alſo made to afford a Syrup, that will keep, and is uſeful in Coughs, but which I doubt, is not ſo efficacious as the Simple Juice.) There are many and obvious experiments of the great efficay of ſo ſimple a Remedy as Aſſes Milk; (which yet in ſome caſes, I think inferiour to Goats Milk,) if it be given in a ſufficient quantity, and for a competent time, there are alſo many Inſtances of dangerous and ſtubborn Diſeaſes, that have been cur'd even by Common Cows Milk, when it has been very plentifully taken, and for a long continuance of time, and perhaps it is no leſs remarkable, that

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in a far less time now and then, not extending to very many daies, Fluxes, as *Dyarrhæas*, and tho more seldom even Dysenterical ones, are happily and easily cur'd, as I have sometimes known by the bare use of so slight a Remedy as Milk, wherein, whilst it is gently boyling, an equal quantity of fair Water is little by little put, 'till at last there remains but as much Liquor as the Milk alone amounted to at first. This simple Alimentous Medicine being liberally taken (for it should be us'd instead of all other Drinks whilst the Disease continues) has been very frequently found to cure Fluxes, not all of one sort, in *Ireland* it self, where that kind of Disease is Endemical. And, *tho* I have formerly in another Paper recommended the use of *Paronychia foliis rutaceis*, against that sad and stubborn Disease the *Kings-Evil*, *yet* I presume you will allow me, by the mention of a Tryal that was since made with it, to give a notable Confirmation

firmation of the Utility of giving an Alterative Simple, if need require, in considerable quantity. A Physician that I knew, was sent for to a Scrophulous Patient, in whose Throat there was a Tumour, so big and so unluckily seated, that much compressing the *Asophagus* it rendr'd Deglutition exceeding difficult: So that being likewise so hard and stubborn, that tho the Physician was also a famous Chyrurgion, he could neither discuss it, nor bring it to Suppuration; The Patient, tho rich, was in imminent danger of being starv'd. In this Strait the Physician remembring the Character I had given of *Paronychia*, or *Whitlow* Grass, sent about the Country to to get all that could be procur'd: And at first gave a little of it in form of Infusion, in such liquid Aliments as the Patient was able, with much ado, little by little to get down. And having by this means, after some time, made the Deglutition less difficult, he gave the Remedy

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more and more plentifully, to imbue the whole mass of Blood and Juices of the Body with the Vertue of the Herb, whereby the Tumour was at length resolv'd, and the Patient secur'd, so much to the Physicians Reputation as well as Profit, that, as he said, he thought Gratitude oblig'd him to give me a Circumstantial Account of his Success; as he very civilly did in a long Letter whereof I have given you the Substance.

And tho I might here entertain you with the Vertues of some other Simple Remedies, plentifully given, yet for brevity sake I shall rather observe in general, That I doubt not but several Simple Medicines (I speak of alterative not evacuating ones, would be found far more effectual than they are commonly thought, if they were given in a much larger Dose, and continued for a competent time. And probably so many Physicians (especially of the Old School,) would not be so forward

forward to reject either Specifick or ſimple Remedies, as having found ſome of them not to anſwer Expectation; if they would allow them as fair a Tryal, as they give to their own Preſcriptions, ſuch as the Chalybeats of the Shops, the Spaw, or Tunbridge Waters, the Decoctions of *Guajacum*, &c. which they often give with divers intermediate helps for a Month or ſix Weeks, and ſometimes for two Months together, without expecting that in a few weeks, much leſs in a very few days, they ſhould perform the cure.

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§ IV.

THE Fourth thing that may recommend the uſe of Simple Medicines, is, That *cæteris paribus* they are more eaſy to be procur'd then Compounded ones. This Aſſertion needs little proof. And where ſeveral Simples are requir'd, one

one or more of them may oftentimes be difficult to be got; and all of them will ſtill be troubleſome to be fetcht, and to be made up into a Compoſition. How uſeful the knowledge of Parable Remedys may be, I have indeavour'd to ſhow in a diſtinct Paper; and therefore ſhall not diſcourſe of it here, but only add this one Obſervation, that ſome Medicines are ſo parable, that without reſorting for them to Apothecarys ſhops (which are not every where at hand, nor always furniſhed with them) we may find them in thoſe of other Trades-men. Thus among Maſons and Bricklayers we moſt commonly meet with Quicklime; whoſe bare Infuſion in common Water [about a pound of the former, as 'tis more or leſs ſtrong, to about three or four Quarts of the latter,] is of it ſelf a good Medicine in divers Caſes, and as Experience has perſwaded me, may be made the *Baſis* of ſeveral good Remedys, both Inward and Outward. Among the

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latter of which may be reckon'd an Oyntment, that I uſually kept by me for Burns, and made only by beating up ſtrong Lime-Water with as much good Lin-ſeed Oyl, as could be made throughly to incorporate with it into a very white Unguent.

And I ſhall add concerning Lin-ſeed Oyl, (ſince I have mention'd it) which is to be had in the ſhops of Varniſhers and Painters; that of it ſelf, being exhibited in a large Doſe, as of ſeveral Ounces at a time, I have known it anſwer the Commendations given it by eminent Phyſicians, for breaking of Pleuritical *Empyemas* Simple Oyl of Turpentine alſo, that may be uſually had in the ſhops of the ſame Trades-men, is in reality a noble Remedy in divers Affections, not only Inward, in which Chymiſts commend it, but Outward too. And I have had great thanks, both from Phyſicians and Chyrugeons, for recommending the uſe of it to them in Wounds, and particularly, where one

one would expect little from it in the ſtanching of Blood, if it be ſeaſonably apply'd very hot to the wounded Parts, where it alſo much promotes a good Digeſtion. And I am confirm'd in the good Opinion I have long had of this Oyl, by the Information that's given me, That very experienced Chyrurgeon has lately been ſo charitable, as to publiſh a little Book, conſiderable for the uſeful Obſervations it contains, of notable Cures done by him in Chyrurgical Caſes, chiefly with Oyl of Turpentine. And I ſhall add, that a Chyrurgeon to a great Monarch, and one of the skilfulleſt men I ever met with of his Profeſſion, confeſs'd to me, that in an admir'd Cure that he had then lately done of a deſperate Gangrene, in an eminent perſon, very aged and almoſt bed-rid, the Medicine he aſcrib'd moſt to, was the Oyl we were ſpeaking of. And, becauſe both he and others make much and good uſe of Spirit of Wine in Gangrens, which yet is thought

thought to be unmingleable with Oyl of Turpentine, becauſe if it be ſhaken with it, it will quickly ſeparate again from it; I thought it might do Practitioners ſome ſervice, to make for them a Mixture of Oyl of Turpentine and Spirit of Wine, that might probably be more penetrant than the former, and leſs fugitive than the latter, which of it ſelf does not ſtay long enough upon the Parts 'tis apply'd to. Which Mixture I eaſily made, by digeſting for a while, and ſtrongly ſhaking from time to time, about equal parts by gueſs of good Oyl of Turpentine and throughly dephlegm'd Spirit of Wine, till this Liquor, by imbibing or diſſolving great ſtore of the Oleaginous Parts, have attain'd a Yellow Colour, for which reaſon I call it the Tincture of Oyl of Turpentine.

And, ſince my ſubject has led me into the ſhops of Colour-ſellers, I will before I leave them, take notice of one Simple that is wont to be found there, which if it were

not very offensive to the Tast, and somewhat disagreeable to the stomach, would be perhaps preferable for its Antinephritick Vertue, to the most pompous Compositions of the shops, and some of the celebrated *Arcana* of the (vulgar) Chymists. I procur'd it, not without some difficulty, from a Spagyrist, very well vers'd in the School of *Paracelsus* and *Helmont*; who, tho a sparing Commender of Remedyes, extoll'd this as the best he had ever met with, to cure the Stone where it was not too big to pass, and to prevent the increase of it where it was. I have known it us'd in Clysters, with very good succes in a Fit of that Disease. But Inwardly I had no occasion to try it but upon my self. And judging it innocent enough, (as indeed I found it rather Anodyne than Driving, I took it now and then, mix'd with Oyl of sweet Almonds chiefly to allay the Tast, for otherwise I had long found that alone, insufficient) as a Preservative from Gravel. And,

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thanks be to God, I divers times thought it more manifeſtly effectual to that purpoſe, by leſſening either the bulk of the Grains, or the quantity of the Sand, or both, than any of the Remedyes I had taken for prevention in ſeveral years before. And yet I ſcarce took a quarter of the Doſe, preſcrib'd by the Spagyriſt that communicated the Medicine to me; which in ſhort is (for I preſume you would gladly know it) to take from time to time, by it ſelf or in ſome convenient Vehicle two or three ounces of the expreſs'd Oyl of Walnuts, which, if the great ſtaleneſs of it he requires be neceſſary, (which I mean to examine by Tryals) is ſcarce to be had but at the ſhops of Artificers, becauſe he would have it at leaſt a year old, and judg'd it the elder the better.

Before I quite leave the Shops of Trades-Men, I ſhall take notice of one Medicine more, that ſeems to have been firſt lodg'd there, and from thence tranſlated into the Shops of

Apothecaries. The Medicine I mean is Caſtile or elſe Venetian Soap, (for either is often imploy'd in ſtead of the other) which being a Body abounding with Alcaliſite Salts and Oleaginous Parts well combin'd, invited me to make ſome Experiments with it, as a Subſtance that may be applicable to good uſes, not only Mechanical but Medical. Of ſome of the former ſort I elſewhere make mention. And as to its Medicinal vertues, I take notice in another Paper of its Efficacy againſt the Jaundiſe; for which I have ſince been inform'd, that, as nauſeous a Medicine as it is, 'tis in great requeſt among ſome Skilful Men in *Holland*. And ſome freſh, but not ſufficient, experience has recommended it to me againſt the Stone. But that vertue of it which I as yet moſt prize it for, and now intend to communicate to you, you will beſt gather from the following Story. Having had ſome dealings with a conſiderable Merchant (of *Cork* in *Ireland*) he ſadly complain'd

plain'd to me, that he was afflicted with a neceſſity of making Bloody Water to that degree, that he fear'd he muſt ſoon quit his Profeſſion, being already unable to ride about his buſineſs, and ſcarce able to walk a foot the length of a Street, without ſtooping to make red Water. Hereupon I told him I had a Medicine, that, if he could digeſt the unpleaſantneſs of it, would, I thought, by the bleſſing of God, do good even in his caſe. And it was only to ſcrape with a Knife as much Caſtile Soap into a Spoon, as it would conveniently hold without being preſs'd, *i.e.* near a dram, and having fill'd the vacant part with ſmall Ale, or ſome other convenient Drink, to facilitate the ſwallowing ſo nauſeous a Remedy, waſh it down with a ſomewhat large Draught of the ſame Liquor, or other fit Vehicle, repeating the Doſe twice or thrice a day, if need requir'd. The manifeſt relief he found by this ſeemingly deſpicable Medicine, within (if I miſremember not) two or

three days, invited him to continue the use of it a while longer, and afterwards to return me solemn thanks for it; declaring that now for four years together he had liv'd quite free from his Distemper, without scrupling to ride Journeys on Horse Back, as his occasions requir'd. To which he added, that in regard I had not confin'd him to secresy, he presum'd I intended the Medicine should do as much good as might be, and therefore scrupled not to give it to several others, who were likewise happily cur'd by the use of the same Remedy. Which Account was therefore the more welcom to me, because in the place were I liv'd, I had not opportunity to make further Tryals of its Efficacy. And on this occasion I shall beg leave to advertise you once for all, in reference to the Remedies deliver'd by me, either in this Paper or in my other Writings; That I am as sensible as another of the almost insuperable Difficulty, of making any certain

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Experiments in Physick; and that, having of a long time (for Reasons given in due place) studiously, tho not unreservedly, declin'd the Occasions of giving (and consequently of reiterating) Medicines: I justly desire that none of my Readers, and especially that Dr. F. would too much rely upon them, till they have been more competently try'd, than perhaps some of them, for want of opportunity, have been; and administred to Patients of differing Complexions, Ages, and other Circumstances.

You may find other Instances of the vertue of Parable, and some of them unpromising Medicines, in one of my Essay's *Of the Usefulness of Experimental Philosophy*; to which I the less scruple to refer you, because I do not remember what I have there written many years ago, so perfectly, as not to fear that I might by enlarging this Section, put you to the trouble of reading some things here that you have met with there al-

ready. And yet I am somewhat incouraged both to mention to you that Book, and to present you some other Receipts in this Paper; because it has pleas'd God so far to bless divers of the Medicines I have there recommended, or do there mention, that they have been prosperous to many Patients, and not altogether unuseful to some noted Physicians; and have procur'd me from both more thanks than I pretended to; besides inviting Encouragements to further Communications.

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§. V.

THE last thing in order, but not in importance, that induces me to wish, that Physicians would imploy Simpler Medicines as much as conveniently may be, is, that 'tis one of the likeliest ways, (and perhaps little less than absolutely necessary) to promote the Practical knowledge

knowledge of the *Materia Medica*. For, whilſt in one Receipt a multitude of Ingredients are mingl'd, if not confounded, 'tis almoſt impoſſible to know with any certainty, to which of the Simples the good or bad Effect of the Remedy is to be attributed, or whether it be not produc'd by a Power, reſulting from the particular Quality's of all of them, united into one Temperament, and by its means acting conjointly, and, as the School men ſpeak *per modum unius*. So that by this way of heaping up or blending Simples into one compounded Remedy, I ſee not how in many Ages Men will be able to diſcover the true qualities good and bad, of the particular Bodies, that are compris'd under the name of the *Materia Medica*; whereas, when a Phyſician often imploys a Simple, and obſerves the Effect of it, the relief or prejudice of the Patient, may very probably, if not with medical certainty, be aſcrib'd to the good or bad Qualities of that particular Remedy. And

And this difficulty of discerning, what Ingredient it is of a very compounded Medicine, that helps or hurts the Patient, is much increas'd to those that affect to write Bills, wherein something is prescrib'd, which tho, because it goes under one name, passes but for one Ingredient, is yet a very compounded Body; as is evident in those many pompous Receipts wherein Treacle, (that alone consists of above sixty several Simples) Methridate, and divers other famous ancient compositions; that each of them consists of good store of Ingredients. I had once thoughts of drawing up a discourse of the Difficulties of the Medicinal Art; and had divers materials by me for such a work, which afterwards I laid aside, for fear it should be misimploy'd to the prejudice of worthy Physicians. But among the difficulties that occurr'd to me, I shall on this occasion mention one, which was; That 'tis a harder work than most men think, to discover

cover fully the nature, or the good and bad quality's in reference to Phyſick, of this or that ſingle Plant, or other Simple, that has a place in the *Materia Medica*. For beſides the great difference that there may be in Plants of the ſame denomiation, according to the Climate, Soil, the goodneſs of the ſeeds that produce it, the culture, or the want of it, the time of the year, the ſeaſonableneſs or intemperateneſs of the weather, the time and manner of gathering it, how it has been kept, the parts of it that are, and thoſe that are not made uſe of, together with other circumſtances too many to be here enumerated: beſides all theſe, I ſay, the unheeded Textures of parts that are thought of an uniform nature, and the length of time during which they have been kept, without being ſuſpected to be ſuperannuated, and indeed without being ſo, may ſo much vary the nature of a Plant, that I have ſometimes almoſt in a trice

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ſhewn the curious a notable diſparity in the parts of the ſame freſh Leaf of a common Plant: And (NB.) I have found by Tryal purpoſely made, that ſome ſeeds of common uſe in Phyſick (and not putrefy'd) will, being diſtill'd at one time of the year, afford an Acid Spirit or Liquor; but at another time of the year, tho deſtill'd the ſame way without any addition, afford not an Acid, but a kind of urinous Spirit, that contains a volatile Salt, which in Smell, Taſt, and divers Operations, I found to be of great affinity to the volatile Salt of Urine, or that of Hartſhorn. And indeed ſo many things may be pertinently and uſefully propos'd to be inquir'd into, about this or that particular Plant made uſe of by Phyſicians, that perhaps they would be leſs inclin'd to compound numbers of them in one Receipt, if they were aware how much uſeful employment the indagation of the Quality's of ſo much as a few ſingle Plants would give them:

them: and yet without the knowledg of the properties of the separated Ingredients, a Physician prescribes, it will be scarce possible for him to know, with sufficient certainty, how the compound made up of them, will be qualify'd and operate, which reflection, I the less scruple to propose, because I am confirm'd in it by *Galen* himself, who very Book, where he largely treats *De Medicamentorum Compositione*, hath this Assertion; *In universum, nemo probe uti possit medicamento composito, qui simplicium vires prius non accurate didicerit.* *Galen. de Comp. Sec. Gen. lib. 1.*

I presume you will easily allow, that much of what has been said in favour of those simple Medicines we owe to *Natures* (or rather to its *Authors*) Bounty, may be extended to many of the Remedy's that are afforded us by the Chymists Art. For, without now entering into the Question, whether the Spirits, Oyls, and Salts, that are obtain'd by what Spagyrists call *Analyses by the fire*,

fire, are *Principles* in the ſtrict ſenſe of the word; it will ſcarce be doubted, but that the Spirit, or the Oyl, or the Salt of a mix'd Body chymically reſolv'd, is ſo ſlightly or unequally compos'd, that the Ingredient whence it takes its name, is far more predominant, than it was when combin'd with others, in the entire or not yet Analys'd Concrete. And that ſuch ſuppoſed Principles, or Medicines of a ſimpler Order, may be very efficacious Remedys, may be juſtly argu'd from the great and beneficial effects of ſuch as Oyl of Vitriol, Spirit of Urine (NB.) a Medicine of great uſe both Inward and Outward, Spirit of Hartſhorn, Spirit of Niter, Spirit of Wine, and Oyl of Turpentine; of which laſt nam'd Liquor I ſhall add, that, beſides the vertues already aſcrib'd to it in this Paper, whilſt it retains its ſimplicity, it may in many Caſes be imploy'd as a *Menſtruum*, and by being combin'd with an Ingredient or two, be made to afford divers

Medicines

Medicines, which tho but little compounded, are not of little vertue. For I have found it readily enough to dissolve Camphire, Mastick, and some other Gums, of which Balsoms may be made, and others may be obtain'd by the help of the same Liquor, even from divers Mineral and Metalline Bodies. I *will not insist* on so known a Medicine as the common Terebinthinate Balsom of Sulphur; tho this be a Remedy, with as much as 'tis peculiarly extoll'd for Diseases of the Lungs, (wherein yet its heat requires that it be very warily given to Patients of some complexions) has vertues that are not confin'd to the Distempers of those parts; since both I and some I commended it to, have found it very effectual (outwardly apply'd) in troublesome Hæmorroidal Pains and Tumors: and (NB.) some experience inclines me to think its vertues may not be much greater in Pulmonick than in Paralytick Distempers: in which (last) it may be

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us'd, not only Outwardly, but chiefly Inwardly; and that in a pretty large Dose with a Cephalick, and, in some Cases, an Antiscorbutick Vehicle. *But I shall rather take notice* to you, that perhaps it will be found worth while to try, at least in external Affects, the use of divers Tinctures, and consequently Balsoms that may be obtaind by the help of Oyl of Turpentine from divers solid Mineral Body's, upon which I have found by tryal, that this Liquor may be ting'd (tho not of the same colour on all of them,) among which I shall name, besides Crude Zink, Crude Antimony, and even Crude Copper (in filings;) a noble Subject, Antimonial Cinnabar; from which, tho I found I could (but not hastily) draw a fine Tincture, I had not opportunity to make tryal of that promising Medicine.

§. VI.

§. VI.

AND as for those other Medicines, that are not made by bare *Analysis*, but by *Synthesis* or composition; *tho* I think an experienc'd Chymist may, in many cases, with less uncertainty than a Galenist (who employs Crude Ingredients of a more compounded nature) foresee what quality the produc'd mix'd Body may have: *Yet* I could wish, that even the Spagyrists themselves were more sparing, than many of them are, in the number of the Ingredients they imploy to compose one Medicine. For most of the Arguments, upon which I grounded my Invitation to the use of simple Remedies, are applicable to Chymical ones, as well as others: And on this occasion I shall represent two things.

First That in many cases, preparations skilfully diversify'd, may be usefully substituted to composi-

tion : Since one Body dexterously expos'd to differing Operations, may acquire as various, or as considerable, Qualities, as would accrew to it by the addition of such other Bodies, as an ordinary Chymist would in probability associate with it. Thus, not to mention Quick-silver, Antimony alone, whether prepar'd without addition, as when Flowers of several sorts are made of the more *Volatile*, and true Antimonial Glass of the more *fixt* part, or being associated but with one or two Ingredients, may afford a skilful Spagyrist, Medicines numerous and various enough, almost to furnish a Shop; or at least to answer the Physicians Scope, where he would imploy an Emetick, a Cathartick, a Diaphoretick, a Deobstruent, a Diuretick, a Bezoardick or cordial Medicine; to name now no other Qualities, that may be found in some Antimonial preparations, in a degree considerable enough to ennoble them. Which Instances, and others of the like nature

ture, I presume you will allow me to make use of in this discourse, because, though I do commonly, yet I do not always, imploy the Term *Simple Medicine* or *Remedy* in the strict and absolute sense, but in a comparative one, that excludes compositions of more than two or three, or at the utmost a very few, Ingredients.

Secondly, Without bringing together a *Chaos*, or so much as a considerabe number, of Ingredients, one or two, or at most three auxilary ones, if judiciously chosen and skilfully manag'd, may oftentimes produce more efficacious Remedies, than the admirers of pompuous Processes would expect, or perhaps be able to make those Processes vye with. The violently Emetick and purgative vertue of Glass of Antimony made *per se*, may be, as I elsewhere show, more powerfully corrected by mere distill'd Vinegar, than by many famous Stomachick and Cordial Elixirs, and other Elaborate Preparations. And sometimes a seemingly

improper addition may not only correct, but give new and unexpected vertues to a Drug. Thus, though *Sublimatum corrosivum* be a mercurial concrete, so fretting, that a very few Grains of it may be able to kill a man; yet by adding and carefully uniting to it about an equal weight of running Mercury, there is obtain'd, when they are well united by Sublimations, a Compound that is so free from being corrosive, that Chymists call it *Mercurius dulcis*, which though some unwary Practitioners, as well Galenists as Chymists, have too often by their misimployment of it, discredited, yet experience shows that in Skilful hands it may be usefully imployed, not only in some venereal affections, but in divers other Distempers. And I shall now add, that being carefully prepar'd, and well given, it may not only be freed from corrosiveness, but much allay the Sharpness both of some emptying Medicines, & of some peccant humors. To countenance

tenance the latter part of which observation, I shall acquaint you with one use of it, that perhaps you have not yet made. I remember, I had an opportunity to observe the Efficacy of *Mercurius dulcis*, in a stubborn *disentery*, that had baffled the Remedies of an eminent Physician. But though a reflection on the vertue, I knew this Medicine to have, of allaying Sharp humors, and resisting Putrefaction, may justly increase my favourable opinion of it; yet not thinking my Experience competent, I imparted it to an ancient and expert Chyrurgeon, that was the chief of those that belong'd to a famous and judicious General of an Army; who thereupon frankly confess'd to me, that this was his great *Arcanum*, wherewith he had cur'd many scores, or rather hundreds of Souldiers in this generals Army. Only, whereas my way is to give from 8, or 10, to 12, or at most 15 Grains of *Mercurius dulcis* for a Dose, made up with some little *Rhubarb*, *&c.* Or o-

ther Ingredient that would make it work, once, twice, or thrice with another Patient, (for the diſentery it ſelf helps to carry off the Medicine) he, both to diſguiſe it, and to make it more eaſily takeable, made it up with Sugar and Mucilage of Gum-dragon into Lozenges, whereof one might contain from near a Scruple to half a dram of the *Mercurius dulcis*, of which he order'd the Souldiers to take one at a time, without hindering their March; only bidding them have a great care, that nothing ſhould ſtick between their Teeth, or in their Throats.

3. But the efficacy of this ſimple preparation of *Mercury*, is much inferiour to that more ſimple, although more tedious, preparation of Gold, which was made the ſame way in two differing Countries, by two dexterous Phyſicians, both of them of my acquaintance. For though I had long been prejudic'd (not without ſpecious grounds) againſt pretended *Aurum potabiles*, and other boaſted

boasted preparations of *Gold*; (for most of which I have still no over-great esteem) yet, I saw such extraordinary and surprizing Effects of the Tincture of *Gold* I speak of, upon Persons of great note, that I was particularly acquainted with both before they fell desperately sick, and after their strange Recovery, that I could not but change my former opinion, for a very favourable one of *some* preparations of *Gold*; and I should have *thought* that this Medicine (as little compounded as it is,) could scarce be paid, by a great store of the Noble Metal that afforded it, if it could have been made in great quantity, or without a great deal of pains and time. I can speak thus circumstantially, because by the kindness of the Artists, and the pains I had spent in working on the same Subject they make their *Menstruum* of, I so far knew, and partly (by themselves invited) saw, the preparation of it, that to bring home what has been said, to the present occasion) I can tell

you, that there is no Ingredient associated to the *Gold*, save one, that comes from above, and is reputed one of the simplest Bodys in nature, and of which one may take two or three Ounces altogether unprepar'd, without the least inconvenience. And yet the Dose of this almost insipid Medicine, that was given to an old Courtier, even in a violent Apoplexy, wherein other Remedies had by skil'ful men been us'd in vain, was but six or eight drops.

In another very ancient and corpulent person the Dose was greater, because the Tincture was more unripe and diluted; but the effect was as sudden, tho the Patient was not bled, and tho there was not in either of these two cases, any notably sensible evacuation made. [Both these recover'd Persons are yet alive] the same Medicine a while after, saved the life of another Gentleman I know, who, having lain above two and twenty days sick of an ill condition'd Feaver, was condemn'd

demn'd by three Physicians, whereof one told me with great grief, that he would not out-live the next morning; and yet upon the taking of a large Dose of this Tincture, he was presently reliev'd, and from that time found a sensible amendment towards a recovery, which he now injoys; tho he were then reputed to be about, if not above fourscore years old. Some other odd effects of this Remedy I could tell you of: But it has already much swell'd this Section, and yet I thought it not amiss to relate these things to you, both, because they are very pertinent to the scope of it, and because you may be, as I long was, prejudic'd against Medicines made of so fix'd, and, as is suppos'd, un-alterable a Metal as *Gold*.

4. This is not the only Medicine made of that noble Body, of which I have known very notable effects. But, because they belong to another Paper, I shall not particularly mention them in this; but pass on to tell

The Usefulness of Exp. Philosophy.

tell you, that the Preparation of *Silver*, that I have long since deliver'd in another Book, tho it may seem but slight, has been found very effectual, and much us'd, by one of the eminentest Physicians of this nation, to whom I recommended it: and who acknowledg'd to me, that He gave it to Patients of very high Quality, tho' disguis'd, to avoid alarming those that are fearful of Chymical Medicines. And since that I gave it to a great Lady that was Hydropical, and judg'd to be dangerously ill, with notable success; and the Cure has already for some years held good. But I confess to you, that I look upon *Copper*, and its Magistery *Blew Vitriol*, as a much nobler Subject to make Remedy's of, than *Silver*, and perhaps than *Gold* it self. And if I were to make Physick my Profession, there is no Metal which I should so willingly bestow pains upon as *Copper*, induc'd thereunto by the excellent and very extraordinary Effects

Effects, (not all of them to be mention'd in this Paper, that I have had opportunity to see, of some Remedies, which tho' I could never learn how to make, I knew were made of that Metal, or *Vitriol* abounding in it. [But first freed from all cruelticle violence.] And for appeasing of Pains, produc'd even by inveterate Maladies, the *Laudanums*) and other opiate Preparations, that are prescrib'd and prais'd in Physicians and Chymists Books, and much us'd (oftentimes with good success) in their practice, seem to me, because of the *Stupor*, and some other inconvenient Symptoms, they are wont more or less to be followed by, far inferiour to the *Sulphureous Parts*, as a Chymist would call them, of skilfully prepar'd *Venus*; these being much more harmlesly and friendly *Anodynous*. And I remember that an Empyrick, to whom, at his requeſt, I taught a very uncertain way (for it rarely hits) of making a kind of *Sulphur of Vitriol* alone, in the form

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of a Brick colour'd Powder; came purposely to give me solemn Thanks for the Reputation he had gain'd by that Medicine, of which the first time he had the good luck to make it, he gave, as he was instructed, four or five grains of it, to a Woman that could not sleep, but had been for divers months raving mad, [*Maniaca.*] which single dose not only gave her a good Nights rest, but brought her to talk sense when she wak'd in the Morning. I knew also a Chymist, that was much courted even by learned Doctors, for an internal Anodyne he us'd, and could sell at almost what rate he pleas'd, to take off inveterate Pains in the Heads and Shins of venereal Patients; and the same Person cur'd venereal Ulcers in a very short time, only by strowing on them an Indolent Powder. And tho he was so shy, that he would not let even the Physicians, I recommended to him, see his Medicine, yet having one day been told of a kindness I had done him,

him, unknown to him; he took it so well, that he not only allow'd me to see and handle his Medicine, but when I gues'd by the ponderousness and effects of it, that it was some Preparation of *Mercury* fixt with *Sulphur of Venus*, he frankly acknowledg'd to me, that, tho it would indure not only Ignition, but a strong & lasting fire, that in the former part of my Conjecture (*that the Body of it was Mercurial*) I was in the right; and in the latter part I shot very near the Mark; but added, that that the true *Sulphureous parts* of *Venus* were in his way so difficult to be obtain'd, and requir'd so much time, that he could seldom prevail with himself, (who indeed was voluptuous enough) to go through so troublesome a work. And in effect I found, upon various Tryals, the constituent Parts of that Metal to be much more strictly united than the generality even of Chymists imagaine. For the extraordinary effects of this Medicine, I can refer you to

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the Testimony of very ingenious men of your own Profession, (and probably acquaintance too.) And since I know you study *Helmont*, I presume you will the more readily believe them, if I put you in mind of that notable Passage, where he says: *Nihil æque victoriose in Humidum Radicale, agit atque primum ens cupri, vel ad vitam longam Sulphure vitrioli est benignius; ideoque Sulphur Philosophorum indigitat*. But my intended Brevity forbids me to insist longer on this Metal, or to take notice of more than one other Metal. And because that of Steel, Physicians as well as Chymists make great variety of Remedies, some of which are produc'd by Preparations slight enough; And the like may be said of Mercury, witness the Remedy formerly commended against the *Worms*, made of nothing but crude *Quick-Silver* barely decocted in common water: For this reason, I say, I shall pitch upon Lead, whose *calx* dissolv'd in Spirit of Vinegar affords

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as you know, *Saccharum Saturni*, which tho so easy and simple a preparation, is a magistery that has more vertues than every Physican knows, or perhaps so much as suspects; especially in mortifying sharp humours in the Eyes, which I have known or made it do sometimes almost in a trice. [But I do not think it safe to make the Plantain or Rose-water 'tis to be dissolv'd in, considerably strong of it.] And for Burns, I have seldom seen any thing equal to it, and therefore have often us'd it upon my self (barely dissolv'd in Common, or else Plantain Water.) But I fear 'tis not so safe as effectual, in some inward Distempers of the Bowels, that are judg'd to be caus'd by Acid humours; unless it be very warily and skilfully given. [But as to its external use, I presume, I need not tell so skilful a Doctor as you (NB.) how great it is in healing, and in the mean time appeasing, the Pains of divers sorts of Ulcers. And therefore I shall mention but one particular

Particular, which 'tis like you have not met with; namely, that I know a very Ancient and experienc'd Person, who, besides a vast practice otherwise, was Chyrurgeon to a great Hospital; who professing much kindness, and owning some obligation to me, confess'd to me, that amongst all the Medicines he has try'd to stop Bleeding, and prevent Accidents in Amputations, that which he oftenest us'd, and most rely'd on, is a solution of *Saccharum Saturni* in Plantain Water (or for a need in pure common Water:) for having dissolv'd ℥j. of the former in about a Pint or pound of the latter; as soon as ever the Limb or other part is taken off, he immediately apply's Stupes drench'd in this Liquor, as hot as the Patient can well endure; and having bound them carefully on, he makes no hast to take them off, but allows the Medicine time enough to perform its operation: To countenance this I would tell you an odd experiment of mine, of the efficacy

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of a Saturnine Liquor to resist Putrefaction, in the Bodys of Animals, but that the relation would take up too much time.]

5. Perhaps I need not tell you, that I could here mention divers other Experiments, as well upon Saturn, as the other Metals I have nam'd above; but *that* my Scope confines me to such Preparations, as wherein the Metaline Subject is compounded but with very few others; and also that of those that are more remote from simplicity, you may meet with several in some of my other Papers, which I am not in this to defraud.

What has been above noted about Metals, may be extended to Minerals: namely, that when there is need to compound them, it may oftentimes be sufficient to associate them with one or two, or at most a very few *Auxiliary Ingredients*, if I may so-call them; this is apparent in several useful Preparations of *Antimony*, that are vulgarly enough known.

To which divers may be added that are made of common *Sulphure*, by ſlight additions. Of which ſort, becauſe I elſewhere deliver ſeveral, I ſhall now mention but one, which though I have many years ago deſcrib'd in the Hiſtory of colours, I ſhall not ſcruple to take notice of here, becauſe I there conſider not its Medicinal vertues, which yet are very great, eſpecially in *Aſthmas* and *Coughs*, in which I do not remember that I ever gave it without benefit to the Patient; nor was it leſs ſucceſsful in the hands of Phyſicians, that were willing to try it for me, eſpecially in thoſe of a Perſon, who though well furniſh'd with choice Remedies of his own, often came to me for a ſupply of this Spirituous and penetrating Tincture, with which he aſſur'd me he did notable things in *Aſthmatical* caſes; and particularly in one that was very obſtinate, and had laſted many years. But not having had quite ſo many opportunities as I wiſhed of giving it my ſelf, I ſhall be

be glad, that further Tryal may be made of it by so skilful an Administrer as you. And therefore lest you should not have the Book lately refer'd to at hand, I shall here repeat, that our Medicine is made of Flowers of *Sulphur*, exactly mix't with an equal weight of finely powder'd *Sal-Armoniac*, and somewhat more than an equal weight of good *Quick-lime*, separately reduc'd to a Suttle Powder. For these three Ingredients being diligently and nimbly mix'd, and put into a Retort, to be plac'd in a sand Furnace, and fitted with a large receiver very well luted to it. This Mixture, I say, being duly distill'd in such vessels, will afford a Blood red and smoaking spirit, exceeding Sulphureous both in smell and even Mechanical Operations. And in this Distillation the Sulphureous Parts sometimes came over accompany'd with such store of saline ones, that a good part of what past into the Receiver shot into the form of a *Volatile Sulphureous Salt*. And I

remember that having for curiosity's sake, added to the Fluid Tincture a due proportion of an Ardent Spirit (such as that of Wine) exactly dephlegm'd, I had a Mixture (whether in the form of a Coagucum or not) which afforded me some odd *Phænomena* not here to be mention'd, and which we subled with a gentle fire to unite them into a composition that may for distinction sake be call'd *Sal trium regnorum*, because it contains *Urinous* Particles, *Vinous* ones, (and perhaps some of *Soot*) and *Sulphureous* ones: whereof the *First* belongs to the *Animal*, the *Second* to the *Vegetable*, and the last to the *Mineral* Kingdom, as Chymists are wont to speak. But what vertues this Salt (that would presently gild *Silver*,) and the Spirit that may be made to accompany it, may have in Physick, I had not occasion to try. But yet I have mention'd it upon the by, that you may make use of it, if you think it worth while to do so. To whch I shall here present you with no Inducements,

ducements, since I perceive that the Particulars above mention'd about simple preparations of *Gold* and other Metals, have already made this Section enormously great. And yet I hope you will not be displeas'd at it; since to so sagacious a person as Dr. F. these passages may afford some not altogether useless hints: and at least 'tis an Encouragement to Industry, to know that the subjects a man works on are capable of affording Excellent things.

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§. VII.

1. I Foresee it may be objected against the frequent use of simple Medicines, that oftentimes it happens that a *Disease*, or a *morbifick Matter*, is not the effect of a single Cause, but is produc'd by the concurrence of two, or perhaps more, Causes, which producing several symptoms, 'tis not probable that one Simple Drug will be able to answer those different In-

dications. This Objection I confeſs is conſiderable, & there are caſeswherein I acknowledg it to be ſo weighty as to invite & warrant a Phyſician, to imploy in them a Medicine conſiſting of more Ingredients than one or two; which I can admit without prejudice to my Deſign, ſince I formerly declar'd, I did not intend to perſwade you to confine your ſelf to Simple Remedy's (ſo much as in the late ſenſe above intimated of that Term) but only *to* imploy them where they may ſuffice; and where they cannot *to* make uſe of Medicines as little compounded as the caſe will permit,

2. But having premis'd this Advertiſement, I preſume I may offer you two or three conſiderations, that may leſſen the force of the lately propos'd objection. And firſt, *tho* I readily grant, that there are Diſeaſes, whereof each may proceed from differing cauſes, and that a Remedy may be available againſt it, when 'tis produc'd by one of thoſe cauſes,

cauſes, without being ſo when it flows from another; *yet* it may alſo eaſily happen, that in one caſe the Diſeaſe may be cur'd by one ſimple Medicine, and in another, by a Remedy not compounded. Nay, it may alſo happen, that the ſame ſimple may cure a Diſtemper, by which ſoever of the two cauſes it is produc'd. This I have in another Paper endeavour'd to make out. And what we ſee of the Effects *of* the *Jeſuits Powder*, as they call it in different kinds of Agues, as *Tertians*, *Quartans*, *&c.* and *of* pacating Medicines (moſt of which indeed owe their vertue to *Opium*, but ſome are Mineral, and have nothing of the *Poppy* in them) in appeaſing Pains produc'd by Humours, and other cauſes very differing; may keep what has been ſaid from appearing improbable. And, if I miſtake not, it may divers times happen, that, whatever it were that at firſt produc'd a portion of Morbifick matter, that firſt produc'd matter, is the cauſe of the continuance of the Diſ-

eaſe, by vertue of ſome peculiar Texture or Noxious Conſtitution, which if a generous Medicine can deſtroy, the Diſeaſe will, at leaſt little by little, ceaſe.

3. It not unfrequently happens, that ſeveral Symptoms that ſeem very differing, may ſo depend upon the primary or principal cauſe of the Diſeaſe, that if a Medicine, how ſimple ſoever, be capable to deſtroy that cauſe, all the various Symptoms will, by degrees at leaſt, vaniſh of themſelves: as we often ſee, that when *Mercury*, tho perhaps but crude, is skilfully apply'd, and raiſes a kindly ſalivation, a great variety of Inconveniencies that afflicted a Venereal Patient, and ſeem'd to require many differing and topical Applications, are remov'd by the ſame Remedy; inſomuch that not only frightful *Ulcers*, but ſuch *Nodes* as one would think ſcarce poſſible to be diſſipated by the ſtrongeſt Plaiſters, are ſometimes happily cur'd by well prepar'd Quickſilver, taken in at the mouth,

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as I have been assured by more than one eminent Physician upon his own Experience. And tho not unfrequently there be *several*, & sometimes very different Symptoms, that accompany that Disease of children that in *England* we call the *Rickets*; (and of which there dye several almost every week in *London* alone) yet that Medicine which I have elsewhere describ'd under the name of *Ens (primum) Veneris* [made of strongly calcin'd and well dulcify'd *Colcothar of Dantsick Vitriol*, and elevated with *Sal Armoniack* into the form of a reddish sublimate] has prov'd, by Gods blessing on it, so successful, that partly by a Sister of mine, (to whom I communicated it) and partly by my self, and those I directed to take it, or to give it; I think I may safely say, that two or three hundred children have been cur'd by it, and that almost always without the help of any other inward Medicine, or using any Topical application at all.

4. But

4. But the main thing that I intended, by way of answer to the foreseen Objection, was, that in a simple Medince nature her self does oftentimes so well play the Apothecary, as to render the compositions made in his shop unnecessary. For, tho we are wont to look upon this or that Plant or Mineral, as an entire and simple Body, yet we may much mistake, if we look upon it as a Homogeneous one. In several Plants that are organical Bodies, this Truth is manifest; as for instance, in *Oranges* the *Succulent* part is soure and cooling, but the *Yellow Rind* considerably bitter and hot: and so in *Lemons* the *Pulp*, the *Yellow* part of the *Rind*, and the *seeds* have their differing Qualities and Medicinal vertues. And even in such vegetable Substances as are Homogeneous as to sense, there may be Parts, whose operations may be not only differing, but contrary; as is manifest in the Root we call *Rhubarb*, which affords as well notably *Astringent*, as Laxative and

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Purgative Parts. And ſo in Minerals themſelves good and clean *Lead-Oar*, for inſtance, tho an uniform body as to ſenſe, conſiſts of very diſſimilar Parts, and affords Sulphureous and perhaps other Recrements, beſides Malleable *Lead*, which is it ſelf a compounded Body. Thus alſo ſhining *Marcaſites*, tho they appear Homogeneous, will by barely being expos'd for a competent time to the moiſt Air, afford an Efflorescence, that is perfectly vitriolate, and conſequently contains an Acid Salt, two kinds of Sulphur, a Terreſtrial Subſtance, and at leaſt one Metal, (for oftentimes it holds both Copper and Iron, tho one predominate,) which laſt nam'd Subſtances themſelves are neither of them ſimple Bodies.

5. And if we admit the Chymical *Analyſis* of mixts to be genuine, we ſhall find that almoſt all thoſe that belong to the Vegetable Kingdom, or to the Animal, and many that are refer'd to the Mineral Kingdom, how uniform ſoever they may appear to the

the Eye, do each of them contain ſeveral different, and ſometimes hoſtile Subſtances. Thus *Hartſhorn*, tho it appears a dry and Homogeneous Subſtance, will in diſtillation afford a volatile Salt, an urinous Spirit, a wateriſh Liquor, or Phlegm, a ſwiming Oyl and a ſinking one, a white and porous Earth, or *Terra damnata*, and perhaps ſome, tho but very little, fixt Salt. Thus alſo in the Vegetable Kingdom, *Tartar*, for inſtance, may without addition be made to afford, as Experience hath aſſur'd me, a volatile Salt very like that of Urine, a Phlegme, an Acid Spirit, another Spirit too which I have elſewhere given the name of *Adiaphorous*, two fætid Oyls, whereof one will ſink in Water, and the other ſwim on it, an Earth or *Terra Damnata*, and a fixt Lixivial Salt, upon which the newly mention'd Acid Spirit manifeſts ſuch a hoſtility, that when they are put together, they tumultuate with noiſe and Bubbles, and

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in the Conflict mortify each other. And thus likewiſe in the Mineral Kingdom, not to repeat what I lately ſaid of the compoundedneſs of *Vitriol*; Nor confidently to urge the Opinion of divers Eminent Phyſicians, that *Mars* (as they call Steel and Iron) affords parts whereof ſome are Aſtringent, and other Operative, becauſe I am not yet ſure theſe contrary qualitys, do not proceed from the differing degrees of Fire, and other Circumſtances of the preparations of the Metal: We ſee that *Native Cinnabar* affords by Diſtillation, beſides running Mercury, a dry ſubſtance, whence I have obtain'd a Sulphur that would preſently gild Silver, and a Terreſtrial ſubſtance, whoſe nature I had not occaſion to examine. And I the rather take notice of theſe differing Parts in *Native Cinnabar*, becauſe it is a Mineral that I much eſteem; and tho here in *England* it is very rarely, or ſcarce at all imploy'd as an inward Medicine, yet I know ſome

Forraign

Forraign Phyſicians of ſeveral Nations, that look upon it, as one of their chief *Arcanums*, and both uſe it, and conceal it, accordingly. But I do not willingly imploy it, till it has been prepar'd, by grinding it exactly, upon a Porphire, or other fit Stone, as a Painter would do to make a Pigment of it, and by freeing it from certain Salts, that often undiſcernedly adhere to it, and ſometimes may be hurtful; which is done by Firſt waſhing it very carefully with boyling Water, and then, after it has been throughly dry'd, by burning upon it ſeveral times, one after another, ſome Vinous Spirits perfectly dephlegm'd. The Doſe, if it be to be long continu'd, may be three, four or five grains: but when 'tis to be given but ſeldom, and for an urgent Caſe, it may be from ſix or ſeven, to ten or twelve grains.

§. VIII.

§. VIII.

1. WHat has been said in the foregoing discourse, to manifest, that a simple, whether Organical or not, may notwithstanding its intireness or its seeming Homogeneity, contain or afford very dissimilar parts; may help us to conceive, that being really a compounded Body, it may afford Parts differing enough to answer differing Indications, or attain several Scopes, that are wont to be look'd on by Physicians as necessary, or at least very useful to the cure of this or that disease; as in many *Diarrhœas* or *Fluxes* of the Belly, whereas, 'tis judg'd requisite first to evacuate the Peccant matter, and then to give Astringents, to hinder the immoderate evacuation wherein the disease is thought to consist; Rhubarb answers both those Indications, by its Purgative and its more terrestrial Parts,

Parts, whereof the former diſpatch their work firſt, which makes the Aſtringent operation of the latter ſeaſonable and ſafe.

2. I have divers times obſerv'd, that ſo common and deſpicable a ſimple as *Ground Ivy*, has perform'd things whoſe variety ſeem'd to argue, that it contains Parts of very differing vertues (as of opening, contemperating, healing, *&c.*) and is thereby capable of anſwering differing intentions, eſpecially in Diſtempers of the Lungs & Breaſt, & indeed partly by the Syrup of it, partly by the infuſion of the Leaves, and partly by Medicines made of them in a conſiſtent form; the happy Effects of this ſimple have procur'd me the thanks of divers conſiderable perſons, ſome of which had before unſucceſſfully us'd many Preſcriptions of learned men. And I remember I knew an Ingenious Perſon, who being Maſter of a conſiderable manufacture, which was gainful to him, whilſt his Servants continu'd tolera-

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bly well, was very much incommodated and perplex'd, to find them so obnoxious to violent *Colicks*, (which he imputed to the Copious Steams of the *Vinegar* his Art requir'd,) that he was forc'd almost weekly to allow them some days of cessation from working, to preserve or recover themselves. And I remember that from this Inconvenience, he was at length, as himself confess'd to me, in great part freed by making his workmen frequently use a strong Infusion or Tincture of the Leaves of our *ground-Ivy* made with (not pure or dephlegm'd Spirit of Wine, but) good unrectify'd *Nants* Brandy.

I could here add divers other uses, both Internal and External, of this seemingly despicable Plant, there being scarce any one English Herb known to me, of which, for its manifest vertues, the Experience of others and my own have given me a greater Esteem. And I am apt to think, that the Efficacy which this and some other Simples, that the

fear of Prolixity makes me silently pass by, would be found both greater and more various than they are commonly thought, if Physicians in prescribing Medicines would more often either ordain Simple ones, or at least associate but very few together, and compensate the small number of Ingredients, by the greater quantity of those that are the most appropriated or operative, and by persisting in their use for a competent time.

Tho 'tis not every efficacious Simple, or but lightly compounded Remedy, that can fitly be imploy'd about the Proof of what I am now endeavouring to show, *yet* I shall subjoyn such Instances, as will, I hope, suffice for the present Occasion.

Mineral Waters, as well *Acidulæ*, as the *German Spaw*, our *Tunbridge*, &c. as *Thermæ*, such as those of *Bath*, &c, tho but Natural Medicines; and some of them but outwardly administred, are notoriously known in their native simplicity to be able

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one of them ſingle, frequently to cure ſeveral Diſeaſes, and conſequently to take off a good number of differing Symptoms, that afford various Indications. It may help much to make it probable that the ſame Simple may compriſe Qualities fit to anſwer differing Scopes, and thereby cure differing Symptoms, if it be conſider'd, that there are ſeveral Poyſons that do each of them produce Symptoms not only very frightful, but very various, and yet all theſe have been oftentimes conquer'd by a Specifick Antidote, that is perhaps but a ſimple Herb or other uncompounded Drug. I had once, (and but once) the opportunity of making a Tryal, whereof I ſhall now give you a brief Account, of the vertue of a ſtone taken out of the Head of an enormouſly great *African* Serpent; which ſtone was affirm'd to the Poſſeſſor of it, Governour of the famous Engliſh *Eaſt India Company*, to be highly available againſt the Bitings of all venemous Animals.

The ſubſtance of the Experiment (to give it you in ſhort) was this. I caus'd a young Cat to be bitten by a fierce and highly irritated Viper, which ſo inrag'd the Cat, that in revenge he endeavour'd to bite off her Head, which he took in his Mouth, and did not let go, till, as the Spectators concluded, ſhe had bit him again, at leaſt by the tongue: ſoon after which venemous Hurt, the Cats Head ſwell'd very much, and tho he ſoon grew ſo weak, that he was not able to ſtand on his Legs, but lay along on the ground, yet he ſeem'd to be grown quite mad, for he foam'd at the Mouth, and ſnapt at the end of a Wand, or ſuch like things, that were but held near him; and, which was more, in his rage bit one of his own Legs, that lay not far from his Mouth, much to the ſurpriſe of the Spectators. But, *tho* in this deſperate condition it ſeem'd in vain to attempt any thing for his Reſcue, becauſe one could make him take nothing, and every one was afraid

fraid to come near him; *yet* having mix'd a little of the powder'd ſtone with ſome ſponfuls of fair Water, it was by the help of the neck of a glaſs Retort, that we imploy'd in ſtead of a funnel, pour'd by degrees upon the Cats Mouth; which lying open, tho he endeavour'd to ſhake it off, yet ſome of it was concluded to have got in; and within one hour or two after, if not leſs, he did, to the no ſmall wonder of the By-ſtanders, get upon his Legs again, and not only ſeem'd to have much of the Tumidneſs of his Head, but readily enough took the Medicine I caus'd to be given him; and would probably have ſcap'd very well, if, whilſt I was at dinner with the Company, ſome unruly People had not hurt him more mortally than the Viper had done.

Phyſicians and others have obſerv'd in the Plague a great variety of Symptoms, among which there are divers, whereof each, if ſingle would paſs for a particular Diſeaſe. And this

diverſity of Symptoms may be not unfrequently obſerv'd, not only in Peſtilences that happen at times, or in Countries diſtant from one another, but in the ſame Plague reigning in the ſame Place. And yet 'tis poſſible, that a ſimple Remedy may be available againſt this ſo multifarious or manifold (if I may ſo call it) and violent a Diſeaſe. Of which Obſervation (to omit what might be alledg'd out of ſome other Authors) I ſhall give one inſtance out of *Galen* himſelf, who, treating at large of the *Terra Samia*, takes occaſion to bring in the vertues of *Bolarmony* (*Bolus Armena*) which I ſhould gueſs by his manner of mentioning it to have been little, if at all, known to Phyſicians till his Time. This Earth, that appears a Body ſo ſimple and uniform; He not only commends for ſeveral Diſeaſes, as ſpitting of Blood, Fluxes of the Belly, Dyſenteries, Catarrhs, Defluxions from the Head upon the Breaſt, Difficulty of Breathing thence inſuing,

and

and even Ulcers of the Lungs; but adds, what makes very much and directly for our purpose, in the following words. *In magna hac Peste,* (whereof he had spoken before) *cujus eadem facies fuit atque ejus quæ Thucidydis memoria grassabatur, quotquot hoc Medicamen bibere celeriter curati sunt.* [The way of giving it (which I add by the by, because it may sometime or other be of use) was this, *Bibitur,* says He, *ex vino albo consistentiâ tenui, modice diluto, si aut plane Febri careat, aut leviter eâ teneatur, sin gravius febriat, admodum aqueo.*] And so excellent a Medicine did this simple one prove in that terrible Plague, that our Author sayes, *Quibus non profuit omnes interiere;* Scil. *cum nec alio quovis Medicamine, juvarentur: unde colligiter,* concludes He, *quòd iis duntaxat non fuerit auxilio qui plane erant incurabiles.*

Galen. de Simpl. Med. Facult. lib. ix. Titul. de Terra Samia.

3. There are few Diseases that put on so many forms, or are atten-

ded with greater variety of Symptoms, than that which Physicians call *Affectio Hysterica*, and whose Paroxysus or effects are vulgarly known in *England* by the name of *Fits of the Mother*. And yet we have often remov'd, and not seldom in a quarter of an hour or less, *Hysterical Paroxysus* and *Symptoms*, and sometimes such as made the Patient swoon or lye along as almost dead, by the bare *Odour*, of well rectify'd *Spirt of Hartshorn*, or the mere pungent and powerful smell of a *Spirit of Sal Armoniack*, which by a peculiar way I made very strong, purposely for external Uses. And if I had not out of the experienc'd *Monardes*, Physician to the Viceroy of the *Spanish Indies*, already mention'd in another Treatise an Antiscorbutical Gem; I would here add another Remedy against the same Disease, more considerable to my present purpose, since 'tis only a simple Stone outwardly apply'd.

See Nicol. Monard Simpl. Med. Histor. Cap. 36. P. m. 329.

4. But

14. But, becauſe I think not fit in this place to inſiſt on a Teſtimony already alledg'd, tho its Credibility, as well as that of the thing to be confirm'd by it, may be much favour'd by what has been related, concerning the Vertues of Stones outwardly apply'd, in the latter part of the Diſcourſe about Specificks: For this Reaſon, I ſay, I ſhall add a couple of other remarkable Inſtances, of the Efficacy of even Dry and Solid Bodies, tho but externally apply'd in Diſeaſes attended with ſeveral, and divers of them uncommon Symptoms, whereof, whatever many think of the harmleſsneſs of our Engliſh Vipers, I have here known ſeveral Inſtances, in Men as well as Brutes. And yet in theſe dangerous Caſes, many that come from *Eaſt India* extol the great Efficacy of ſome of thoſe Stony-Concretions, that are ſaid to be found in the Heads of a certain kind of Serpents about *Goa*, and ſome other Eaſtern Countreys: for *tho* moſt Phyſicians reject or queſtion the Power

Power aſcrib'd to theſe ſtones, for curing the Bitings of Vipers, and *tho* I do not wonder at their diffidence, becauſe in effect many of the ſtones brought from *India* are but counterfeit; and of thoſe that were really taken out of Serpents, ſeveral, for a Reaſon I muſt not ſtay to mention, are inſignificant; (and ſuch perhaps were thoſe that the learned and curious *Redy* made his Tryals with) *yet* there are others, whoſe vertues are not well to be deny'd. For, not to build on vulgar Traditions, which are but too often deceitful, one of the eminenteſt Doctors of the *London Colledge* aſſur'd me, that he had, with one of theſe ſtones, done, tho contrary to his expectation, a notable Cure, which he related to me at large. And one of our chief Engliſh Chyrurgeons affirm'd to me, that he had done the like upon another perſon; both of theſe Cures being perform'd by the bare application of the Stone, to the Place bitten by the Viper or Adder. And a very

intelligent

intelligent perſon, who had the direction of a conſiderable Company of Traders in *Eaſt India*, where he long liv'd, aſſur'd me that he had with this Stone cur'd ſeveral perſons of the Hurts of venemous Animals. But this Teſtimony is much leſs conſiderable, as to the number of Cures, than that of a great Traveller into the Southern parts of the ſame *India*, who, tho he were bred by a famous Carteſian Philoſpher, and were forward enough to diſcredit vulgar Traditions about the Countreys he had long liv'd in, yet being for thoſe Reaſons ask'd by me, what I might ſafely believe of the Stones I ſpeak of, ſeriouſly affirm'd to me, that he had cur'd above threeſcore perſons of the Bitings or Stings of ſeveral ſorts of poyſonus Creatures; and that he perform'd moſt of thoſe Cures, by the outward Application of one Stone; becauſe, finding it excellent, He was invited to keep to it, eſpecially in difficult caſes. And this ſame Experience of my own, made with a Genuine

nuine Stone of this kind, upon the Bodies of Brutes, much inclines me to give credit to. But, becauſe this Stone is afforded by an *Animal*, I ſhall add the vertues of another, that properly belongs to the *Mineral* Kingdom; in a Diſeaſe, whoſe Symptoms, tho not ſo various, are ſometimes dangerous, and too often mortal.

To ſhew you then, that in ſpite of great Cloſeneſs and Hardneſs, a ſimple Remedy outwardly apply'd, may be a very effectual one, I ſhall inform you, that tho the Solid I am ſpeaking of paſt for a *Bloodſtone*, yet by its colour and ſome other viſible qualities, I ſhould rather have taken it for an *Agat*. It was but about the bigneſs of a ſmall Nutmeg, and had in it a Perforation, by which a ſtring paſt through it, to faſten it to the Part affected. This Stone had been long kept in the Family that poſſeſs'd it, when I ſaw it, being for its rare vertues left by one to another. But, to omit the reports that went

went of it, the notable cafe, that makes it pertinent for me to mention it here, was this. An ingenious Gentleman, that was a man of Letters, and when I ſaw him, was in the Flower of his Age, and of a complexion ſo highly Sanguine, as is not uſually to be met with, was from time to time ſubject to Hemorrhages at the Noſe; ſo profuſe and ſo difficult to be reſtrain'd, that his Phyſician, tho a Perſon famous and very well skill'd in his Art, told me he often fear'd he ſhould looſe his Patient, and that he would be carry'd away by this unbridled Diſtemper. But when good method and variety of Remedies had been try'd, without the deſir'd ſucceſs, this Stone was at length obtain'd from an ancient Kinſwoman of the Gentlemans, to tye about his Neck, ſo as to touch his naked Skin. This when he did in the Fits, it would ſtop the Bleeding; and if he wore it for ſome conſiderable time together, he all that while continu'd well, as both his learned Phyſician

Phyſician and himſelf inform'd me. And, becauſe I was apt to aſcribe ſomewhat of this effect to imagination, the Patient told me, that a while before one of the chief Women in the City, (whom he nam'd to me) fell into ſo violent a Bleeding, that, tho' it brought her into a Swoon, yet that it ſelf, which is ſomewhat ſtrange, did not hinder her to Bleed on, till the Stone, having been ty'd about her Neck, made her ceaſe to do ſo, tho' ſhe knew nothing of its having been apply'd to her. And this it ſelf is leſs ſtrange than what the Gentleman affirm'd to me of the Power of this *Gem*, as it may deſervedly be called. For his complexion inclining him, as was above intimaed, to breed great ſtore of Blood, his Doctor thought fit to order him, for prevention, to breath a Vein from time to time, which when he was about to do, he was obliged to lay aſide the Stone for a while, becauſe, whilſt he kept it on, the Blood would not iſſue out, at leaſt with the requiſite Freedom. But

But how far have I already past beyond the designed Limits of this little Tract! wherein I at first intended, but to lay before you the five chief advantages I had observ'd, mere simple Remedies to have of very compounded ones; and briefly to propose the main grounds, on which I ascrib'd those advantages to such Remedies. But tho' the better to keep this writing from being prolix, I design'd that it should consist chiefly of such particulars, as I could best spare from other Papers; And *tho'* for that reason I have purposely omitted many parable, and other but little Compounded or Elaborate Medicines: Yet I now perceive that, so many new particulars having offer'd themselves on several occasions, whilst I was writing, my Pen has slipt into the mention of many more Receipts, and Historical passages, than were at first intended. But believing the subject to be very useful, and not despairing but that the things deliver'd on it may not

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be altogether uſeleſs; I dare hope you will pardon ſuch faults, as only my deſire of making the Parts of this ſmall writing, rather ſerviceable than Methodical or well proportion'd, drew me unawares into. But whatever were the cauſe of my Prolixity, the bulk which I ſee this Paper has already ſwell'd to, admoniſhes me, that I ought to put a ſpeedy period to it, without ſpending time ſolicitouſly to declare in what ſenſe I commend the Medicines deliver'd in this Invitation. For by recalling to mind what I have formerly wrote (in a Treatiſe you have been pleas'd to peruſe *) about the Limitations, with which I would have the praiſes I give of ſome Remedys underſtood, and the cautions with which I would have them adminiſtred; you will eaſily be perſwaded, that looking upon them but as fit Tools in a skilful Workmans Hands, I do not pretend that any of them

* See the Appendix to the I. Section of the II. Part of the *uſefulneſs of Exper. Philoſophy*, p. 389. 390. And of the 2d. Edition.

them ſhould do the Offices both of Phyſick and Phyſician too: and that I propoſe not the Medicines mention'd in this ſhort Paper, as ſure Specificks, but as inſtances that there are Remedies, which notwithſtanding their being but ſimple ones, may be very good ones.

I am

Sir

your moſt &c.

R. B.

FINIS.